



CENTRAL PIEDMONT COMMUNITY COLLEGE

General Catalog 1980-82

VOLUME X, MARCH 1980

Central Piedmont Community College

Post Office Box 4009

Charlotte, North Carolina 28204

Street Address

Elizabeth Avenue at North Kings Drive

Charlotte, North Carolina

The Doors Are Open . . .

Central Piedmont Community College is committed to the concept that, given enough time, most students can accomplish any learning task. The college strives to help the students realize their potential as worthwhile and productive members of society.

Office Hours

Administrative Offices are open from 8:00 A.M. to 5:00 P.M. Monday through Friday.

The Office of Student Services is open from 8:00 A.M. to 10:30 P.M., Monday through Thursday, from 8:00 A.M. to 6:00 P.M. on Friday and from 8:00 A.M. to 2:00 P.M. on Saturday.

The College telephone number is 373-6633

NOTE: Not all of the courses listed are offered every quarter.

When will your courses be offered?

Contact 373-6633 Central Piedmont Community College

FRONT COVER: Evening view of CPCC Campus.

COLLEGE ORGANIZATION

BOARD OF TRUSTEES

Albert F. Slaan, Chairman
J. Emmett Sebrell, Vice Chairman
Richard H. Hagemeyer, Secretary

Appointed by The Governor	Expiration of Term
Robert W. Brodshaw, Jr.	June 30, 1981
Willie A. Smith	June 30, 1987
Hila Richards Strattan	June 30, 1983
William M. Claytor	June 30, 1985

Appointed by The Mecklenburg County Board of Commissioners	Expiration of Term
Frank W. Dowd, Jr.	June 30, 1983
J. Emmett Sebrell	June 30, 1987
Gersan Straud	June 30, 1985
Jeanne Brayboy	June 30, 1981

Appointed by The Charlotte-Mecklenburg Board of Education	Expiration of Term
Albert F. Slaan	June 30, 1985
George Margan	June 30, 1981
Caleman Kerry	June 30, 1983
Veegee Shart	June 30, 1987

President of Student Association is non-voting member.

ADMINISTRATION

Richard H. Hagemeyer, President
N. Gayle Simmans, Executive Vice President

E. Warth Campbell, Jr.,
Assistant to the President

Betty J. Funderburke,
Director of Personnel

Melvin L. Gay,
Vice President, Student Services

Renee Hill,
Vice President, Learning Resources

Robert G. Haelzel,
Comptroller

David L. Hunter,
Vice President, General Studies

Otta A. Lackee,
Vice President, Continuing Education

William A. McIntosh,
Vice President, Edu. Planning & Evaluation

J. C. Rabertson,
Manager, Plant Operations and Purchasing

Bruce H. Smith,
Vice President, Administrative Services

Carl E. Squires,
Vice President, Career Programs

HARRY W. LEWIS
SYSTEMS PROGRAMMER
CENTRAL PIEDMONT COMM. COLL.
P. O. BOX 35009
CHARLOTTE, NC 28235

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CALENDAR — 1980 - 1982

SUMMER QUARTER 1980

Currently Enrolled Student Registration	June 3 and 4
Regular Registration	June 5-7 and June 9-13
Final Registration	July 8 and 9
Classes Begin	Friday, July 11
Labor Day Holiday	Manday, September 1
Classes End	Friday, September 12

FALL QUARTER 1980

Currently Enrolled Student Registration	September 2 and 3
Regular Registration	September 4-6 and 8-12
Final Registration	September 24 and 25
Classes Begin	Wednesday, October 1
Thanksgiving Break	November 27-29
Classes End	Thursday, December 18

WINTER QUARTER 1981

Currently Enrolled Student Registration	December 2 and 3, 1980
Regular Registration	December 4-6 and 8-12, 1980
Final Registration	January 5 and 6, 1981
Classes Begin	Thursday, January 8
Classes End	Wednesday, March 25

SPRING QUARTER 1981

Currently Enrolled Student Registration	March 3 and 4
Regular Registration	March 5-7 and 9-13
Final Registration	March 27 and March 30
Classes Begin	Wednesday, April 1
Easter Break	Friday, April 17 thru Manday, April 20
Classes End	Thursday, June 18

SUMMER QUARTER 1981

Currently Enrolled Student Registration	June 2 and 3
Regular Registration	June 4-6 and 8-12
Final Registration	July 7 and July 8
Classes Begin	Friday, July 10
Labor Day Holiday	Manday, September 7
Classes End	Friday, September 11

FALL QUARTER 1981

Currently Enrolled Student Registration	September 1 and 2
Regular Registration	September 3-4, 8-12, and 14
Final Registration	September 23 and 24
Classes Begin	Thursday, October 1
Thanksgiving Break	November 26-28
Classes End	Saturday, December 19

WINTER QUARTER 1982

Currently Enrolled Student Registration	December 1 and 2
Regular Registration	December 3-5 and 7-11
Final Registration	January 4 and 5, 1982
Classes Begin	Thursday, January 7
Classes End	Wednesday, March 24

SPRING QUARTER 1982

Currently Enrolled Student Registration	March 2 and 3
Regular Registration	March 4-6 and 8-12
Final Registration	March 29 and March 30
Classes Begin	Thursday, April 1
Easter Break	Friday, April 9 thru Manday, April 12
Classes End	Saturday, June 19

SUMMER QUARTER 1982

Currently Enrolled Student Registration	June 1 and 2
Regular Registration	June 3-5 and 7-11
Final Registration	July 6 and 7
Classes Begin	Friday, July 9
Labor Day Holiday	Manday, September 6
Classes End	Friday, September 10

GENERAL INFORMATION

I. THE COLLEGE

PHILOSOPHY AND OBJECTIVES

The doors of Central Piedmont Community College are open and accessible to all adults seeking to further their education. The College recognizes its responsibility to the community by providing general services to the surrounding area; by helping individual students recognize their potential as worthwhile and productive members of society; by providing opportunities for students to develop their physical, intellectual, and esthetic capacities according to their individual desires to pursue an education; and by assisting students to obtain goals consistent with their needs, interests, and abilities.

The College seeks to implement its philosophy by:

- (1) Providing the first two years of work in the liberal arts and pre-professional fields for those students who wish to transfer to four-year colleges.
- (2) Providing occupationally-oriented curricula for those students who wish to enter employment as manufacturing and engineering technicians.
- (3) Providing occupationally-oriented curricula for those students who wish to be employed in business and commerce.
- (4) Providing occupationally-oriented curricula for those students who wish to enter employment in health related fields.
- (5) Providing occupationally-oriented curricula for those students who wish to enter employment in public service areas.
- (6) Providing occupationally-oriented curricula for those students who wish to enter employment in the skilled trades.
- (7) Providing a program of general education for the social, cultural and personal development of those individuals wishing to continue their education beyond high school.
- (8) Providing single or combination courses needed by adults in the community to update their occupational capabilities to meet the challenges of a changing technological society.
- (9) Providing courses for the individuals whose education stopped short of high school graduation and for those who wish instruction in home and family education and leisure time activities.
- (10) Providing counseling and guidance services to all students.
- (11) Providing community educational services for organizations and individuals — including speakers, concerts, resource personnel or materials, special institutes or programs and reading lists as requested.

The College is aware that the implementation of these objectives in an open door admission environment will bring to its campus students who differ greatly in age, motivation, and purpose as well as educational and personal background. The challenge of educating these students cannot be met with traditional methods of instruction alone. In recognition of this fact the following policy statement has been adopted by the Trustees of the College:

"Central Piedmont Community College is committed to the concept that, given enough time, most students can accomplish any learning task. This is based on the concept that students basically differ in their rates of learning rather than their ability to learn.

This commitment carries with it a resolve that the College must have as a major objective the provision of ample opportunities for students to learn at varying rates. It also implies a belief in the concept of individualized control of the rates of learning."

The Trustees and staff of the College are dedicated to the task of creating the environment for learning which is defined in the above statements of philosophy, objectives and policy.

HISTORY

In 1963 the North Carolina General Assembly authorized a system of comprehensive community colleges to be established throughout the state in areas of documented need. Central Piedmont Community College was established as a part of this statewide system in July 1963. The first programs offered by the College involved curricula in a career education. The first liberal arts curricula for college transfer were offered in September 1964. Full accreditation was received from the Southern Association of Colleges and Schools in 1969.

Because of its emphasis on individualized instruction and the large number of innovative programs created by its faculty, Central Piedmont Community College was invited and in 1969 became a member of the "League For Innovation in the Community College," an organization of 16 of the leading community colleges in the United States. These pioneering institutions continuously exchange information on projects, techniques and new materials.

The College has grown from its initial enrollment of nearly 2000 in Fall Quarter of 1963 to a Fall Quarter 1977 enrollment of over 26,000. Recognition of this growth, an awareness of the prospect for continued development and an appreciation of what CPCC means to the area caused the voters of Mecklenburg County to overwhelmingly approve bond issues in 1966, 1970, and again in 1978 for construction of buildings and facilities.

LOCATION

The campus, situated at Elizabeth Avenue and Kings Drive in downtown Charlotte, is ideally located near the center of the population which it serves and is convenient to public transportation and expressway systems serving the greater Charlotte area.

INSTRUCTIONAL FACILITIES

The institution is supported by state, federal and local funds and thus is able to provide superior instruction and optimum use of excellent equipment and laboratories at a minimum cost to the student.

CAMPUS AND BUILDINGS

The campus includes parking areas and a learning resources center, classrooms and well-equipped, modern laboratories and specialized shop areas.

HAGEMeyer LEARNING RESOURCES CENTER

The Hagemeyer Learning Resources Center supports the total instructional program of the College. There are tapes, slides, films, programmed materials, books, periodicals and an information retrieval system in the Center. New audio and visual materials and equipment are added, when appropriate, to provide a wide range of information to students and faculty. Facilities and staff are available for local production of instructional media.

The **ADVANCEMENT STUDIES PROGRAM** provides developmental programs for students whose educational backgrounds have not prepared them for the curricula they have chosen, supplementary programs that are coordinated with many of the regular college classes and a variety of other programs for those who wish to broaden their knowledge.

THE DROP-IN CENTER is a warm and friendly place where students can find many kinds of help from members of the faculty and from fellow students. The Center is located on the second floor of RH Learning Resources Center and open from 8:00 a.m. until 8:00 p.m. Monday through Thursday; 8:00 a.m. until 5:00 p.m. on Friday.

The Center provides supportive attention to requests for assistance and information about resources and facilities of our campus; instruction in proper study skills; tutoring services; and assistance concerning registration schedules.

A cognitive style profile and interpretation can be provided and will demonstrate to students their own preferred learning styles.

In the **COMMUNICATIONS CENTER**, located on the second floor, are taught the communication skills of writing, speaking and reading. The Center is organized as an open classroom to accommodate the learning style and learning rate of each student.

THE TELECOURSE CENTER is located on the second floor of the RH Learning Resources Center. It is a service center with two major functions. It serves as the lab for courses offered over local television. The Center also houses a variety of outstanding video programs which may inform, educate, and inspire both faculty and student. Many of the programs have an accompanying workbook or pocket.

Call the Telecourse Center to arrange for class or individual viewing — 373-6422.

The **LIBRARY** is housed on the third and fourth floors; has a collection of print and non-print materials particularly adapted to the objectives and curriculum of the College. Resources of the Library include reference books, bound and unbound periodicals, pamphlets, microforms and audio-visual materials, in addition to the general book collection and a collection of mini-courses for independent study. Microform readers, copying machines and dial-access equipment are included in services provided. An AV Center on the third floor contains materials of all types, equipment for viewing or listening, and browsing opportunities for those interested. An open shelf arrangement is used to stimulate interest and to provide easy access to the collection of print and non-print materials. There are frequent displays on subjects of special interest. Resources of other libraries in the Charlotte area and state-wide are available to faculty and students through inter-library loans. The Library is staffed by trained librarians who are aided by clerical personnel and student assistants. Students are urged to become familiar with the regulations which have been established for the interest of all who use the Library. These procedures appear in the Student Handbook and the Student Library Bulletin.

The Learning Resources Center houses the **DOLLY** system (Dial Our Listening Library Yourself) which is a dial-in phone system offering audio tape programs to anyone in the community.

A **RADIO STUDIO** is located on the fourth floor. Educational programs, newspapers and magazines are broadcast via FM subcarrier (SCA) to a special audience who cannot read ordinary print matter.

The Hagemeyer Learning Resources Center also houses the J. N. Pease Auditorium and Conference Room.

CENTRAL PIEDMONT COLLEGE MART is designed to meet the demands of those who cannot attend certain selected classes at specifically scheduled times on campus. The College Mart is located in Freedom Mall for convenient access and parking.

The College Mart is a new concept in education based on self-paced individualized instruction taught through various media such as video tape, computer, cassette tape, slide sound, and learning packages. In addition, the College Mart provides TV courses, Dolly — a telephone service for course segments and information, and student testing and counseling services by appointment. Registration services are available for all College Mart and CPCC courses during the regular registration period.

The doors of the College Mart are open and accessible to students who wish to further their education. The goal of the College Mart is to provide services that will help you realize your full potential as an individual as well as a productive member of our society. The College Mart Staff shall try to help you achieve individual as well as educational goals and needs. The staff of the College Mart is dedicated to educating and supporting students in whatever task or endeavor they may choose.

The College Mart offers curriculum courses which may be completed at the Mart, labs or lectures for specific courses taught on campus, video tapes of the eight telecourses aired on WTVI (channel 42) and cablevision (channel 3), as well as free mini-courses and course segments. Also, a Basic Skills program in math, language and reading is available through the computer, PLATO.

STUDIOS, LABORATORIES AND SHOPS

Ample opportunity for students to make practical application of their classwork is an inherent part of many programs offered at the College. The campus complex contains numerous laboratories, shops and specialized areas. Each of these areas is furnished with the best equipment available.

ACCREDITATION

Central Piedmont Community College is accredited by the Southern Association of Colleges and Schools, and the North Carolina State Board of Education.

MEMBER

Central Piedmont Community College is a member of the American Association of Community and Junior Colleges and the North Carolina Association of Junior Colleges.

II. ACADEMIC INFORMATION

PROGRAMS OF INSTRUCTION

The College offers a wide variety of learning opportunities to all who seek instruction or training. These opportunities for learning are organized into seven general instructional programs.

1. **The Diploma Program:** This program offers curricula designed to meet the ever-increasing need of our complex society for skilled craftworkers. A graduate from a diploma curriculum should enter employment with a high degree of manipulative skill. The graduate also gains knowledge of basic mathematics, science and communication. The following curricula are available: Computer Operations, Dental Assisting, Automotive Body Repair, Automotive Mechanics, Air Conditioning & Refrigeration, Graphic Arts, Machinist, Welding, Medical Office Assisting, Practical Nursing, Horticulture, Small Engine and Powerboat Mechanic.
2. **The Associate In Arts Degree Program:** The purpose of this program is to provide curricula in the liberal arts and the pre-professional areas which will enable the student to enter as a junior at the four-year institution of the student's choice. While the liberal arts suggested elsewhere in this catalog will satisfy the requirements of most senior institutions, it is the responsibility of all college transfer students to identify as early as possible the institutions to which they will apply for transfer and to ascertain the specific requirements of those institutions for the freshman and sophomore years. Each student's curriculum should be planned by the student and a counselor or faculty adviser with a specific four-year institution in mind.
3. **The Associate In Applied Science Degree Program:** This program offers business, health-related and public service curriculum as well as curricula in engineering and other technologies. These curricula are designed to enable the graduate to enter an occupation with a marketable skill, a high level of competency and the ability to communicate intelligently. The curricula provides not only highly specialized courses to develop technical skill but also general education courses to enable the student to be an effective member of society. The following curricula are included in the program: Accounting, Bookkeeping/Clerical Technology, Business Administration (options: Business Management, Real Estate, Transportation Management, Banking and Finance, Credit and Financial Management, Postal Service Management, Sales and Marketing), Environmental Systems Technology, Commercial Art (options: Advertising Design, Television and Visual Graphics, Interior Design), Civil Engineering Technology, Architectural Technology, Dental Hygiene, Business Data Processing, Mechanical Engineering Technology (options: Drafting and Design Technology, Manufacturing Technology), Electrical Engineering Technology, Electronics Engineering Technology, Associate Degree Nursing, Secretarial (options: General Office, Executive, Legal, Medical), Human Services Associate (options: Casework & Outreach, Activity Therapy, Child Development, Interpreter Training), Physical Therapist Assistant, Medical Office Assisting, Medical Record Technology, Respiratory Therapy, Fire Science Technology, Law Enforcement, Correctional Science, Industrial Safety, Security & Health Management, Food Service Technology, Hotel-Restaurant Management, Paralegal program, Graphic Arts Management, Piano Tuner/Technician.
4. **Certificate Program:** The purpose of this program is to provide special programs of study in health-related and career-oriented programs. The following programs are available: Early Childhood Aide, Diesel Mechanics, Motorcycle Mechanics, Hospital Word Clerk, Medical Transcription, and Nurse Aide.
5. **The Associate In General Education Degree Program:** The degree of Associate in General Education is designed for persons who want two years of college work for its own sake. These persons are not interested in any career-oriented curriculum in its entirety and they do not intend to transfer to another college.

Candidates for this degree may present credit courses taken in the Associate in Arts Programs, the Associate in Applied Science Program, diploma programs, credit courses in the Advancement Studies Department or any combination of these. The A.G.E. Students may enroll in any program for any course in which they can meet prerequisites. To graduate with the A.G.E. degree, candidates must take a total of 96 hours of which a minimum of 32 hours has not been credited toward a previously earned degree or diploma.

A counselor in Student Services assists each student in planning an individualized program.

6. **The Continuing Education Program:** The Continuing Education Program strives to meet the needs of the adult out-of-school population of the area by: Providing general education opportunities to those who desire pre-high school courses, high school completion courses, cultural and enrichment courses, and hobby or general interest courses; providing extension courses to those who desire vocational training, retraining, or up-grading. No college credit is granted for these courses; however, Continuing Education Units (CEU) are awarded upon completion of many of them. Most, but not all, of these classes meet off-campus to fill a specific need at a specific time. Almost any educational need of the community not being met by a regular curriculum class can be met by the Continuing Education Program. Information about courses now being offered may be obtained from the Continuing Education Division.
7. **Advancement Studies:** Advancement Studies is a service program to all curricula. The program offers courses in mathematics, biology, chemistry, grammar and writing for any student who wishes to develop skills in any of these areas. All Advancement Studies courses are designed so that students may begin at whatever level they are currently achieving and advance as rapidly as they choose to whatever objectives they set for themselves. Special services include telecourse center, Drop-In Center, referrals from other instructors based on student needs and special programs for other departments.

CHARLOTTE AREA EDUCATIONAL CONSORTIUM: In addition to the classes listed in the quarterly schedule, other classes not available at Central Piedmont Community College are offered at the 10 other consortium colleges. Information is available through the office of the Assistant for Administrative Services, 412 Terrell Administration Building, telephone 373-6908.

MINI-COURSES are self-instructional learning modules that deal with a wide variety of subjects and skills. The mini-courses were designed to fulfill the educational needs for those persons who wish to learn a certain part of a subject or skill without having to take an entire course; those who just want to learn something new in order to broaden skills and knowledge and enrich their lives; and those who need a certain skill to obtain employment or advance in present jobs.

For further information call 373-6708.

DOLLY is a phone system which provides free listening experiences to anyone who calls 373-6400. More than 600 taped programs are available in the following subject categories:

- | | |
|-------------------------------------|--------------------------------|
| 1. Information about CPCC | 5. Learning by Phone |
| 2. For the Citizen-Consumer | 6. Social Issues and Problems |
| 3. Physical Health | 7. Entertainment and Nostalgia |
| 4. Mental Health, Alcoholism, Drugs | |

DOLLY is in operation 24 hours every day. From 8 a.m. until 10 p.m. Monday through Thursday, and 8 a.m. until 5 p.m. Friday, you may hear any tape in DOLLY's collection by dialing 373-6400 and requesting the program you want to hear. During all other hours, consult DOLLY's weekly schedule in the comics section of "The Charlotte News" or "TV Week", and the Comics Section in "The Charlotte Observer," choose the program you want to hear, and dial the number listed beside that program. The program will play automatically.

A catalog of DOLLY's programs is available at the circulation desk of the library and in Information Services. If you want a copy of the catalog, send a stamped, self-addressed envelope to DOLLY, CPCC, P. O. Box 4009, Charlotte, N.C. 28204.

Call DOLLY today. You'll be glad you did.

WEEKEND COLLEGE

A variety of courses and workshops is offered each quarter on the weekend. Weekend classes essentially fall into two formats:

- (1) classes which meet on Saturdays for an eleven week period and
- (2) classes which meet on both Friday evenings and Saturdays for less than eleven weeks
(usually three to five weeks, depending on the subject matter.)

Weekend College is designed to meet the demands of those who cannot attend classes weekdays or evenings. Weekend College Class Schedules are published in the quarterly schedule and advertised by public service announcements. For complete information, please call 373-6648.

ADMISSION REQUIREMENTS

Central Piedmont Community College follows an "open door" policy which does not impose restrictive standards for admission to the College at-large. Admission to CPCC is open to all qualified students without regard to color, creed, handicap, race, or sex. Admission to the College at-large, however, does not imply that a student will be admitted immediately to a program within the College that may have specified admission requirements.

In most cases, before students are admitted to their program of study, a series of placement tests is scheduled and an academic advising interview is arranged. Placement tests determine skill levels in mathematics, English, and reading. This process aids students in evaluating their potential for success in their intended field of study. It also assists them in identifying courses that they should take to correct academic deficiencies, if they have any.

All **degree** programs and **health career diploma** programs require high school graduation or the equivalent. The high school graduation requirement is considered to have been met by graduation from high school, or possession of a State High School equivalency Certificate (G.E.D. Diploma), or by possession of an Adult High School Diploma.

Admission to **other diploma** programs normally requires high school graduation or the equivalent; however, exceptions may be made on an individual basis upon demonstration of an aptitude for the particular program as determined by tests, counseling interviews, and personal interest.

Requirements for admission to the various Adult Continuing Education courses vary. Specific information may be obtained about these courses by contacting the Adult Continuing Education Office.

Central Piedmont Community College accepts credits from State approved and/or accredited high schools, as well as from other accredited colleges, technical institutes, and industrial education centers. Only courses applicable to the program of study at CPCC in which grades of "C" or better have been earned will be accepted for credit, however. At the time of the academic advising interview, Counselors evaluate student transcripts to determine which courses are transferable to the student's program of study.

ADMISSION PROCEDURES

Applicants wishing to enroll in any program offered by the College should:

1. Obtain an application from the Information/Admissions Counter in the Terrell Administration Building (second floor). Applications may also be requested by mail or by telephone. The applicant's Social Security number, which becomes the student identification number, must be listed on the application.
2. Submit the completed application to the Information/Admissions Counter.
3. Request that transcripts of all high school, pre-college, and college work be sent to: Admissions, CPCC, P. O. Box 4009, Charlotte, N.C. 28204. (Transfer students from other accredited colleges do not need to have their high school transcripts forwarded.)
4. Take placement tests if this is required for the program of study.
5. Complete an academic advising interview with a Counselor and/or department advisor. At this time, the applicant's test scores and previous scholastic record will be evaluated, special requirements for the program will be explained, and a recommended schedule of classes for the first quarter of study will be developed.
6. Register for classes during the appropriate registration period. The Social Security number, which becomes the student identification number, will be needed to complete the registration process.

The College recognizes that many adults in the community will wish to register for only one or two courses as **special credit students**. In order to encourage this type of enrollment, the College will allow a qualified person to be admitted to the College and to enroll for courses without taking placement tests or completing an academic advising interview, provided that the person does not intend to complete a degree or diploma program.

REGISTRATION

The College year consists of four quarters. Students are encouraged to register as early as possible to avoid the inevitable delays of late registration and to increase the probability of obtaining the schedule of classes which best meets their needs.

STUDENT SCHEDULE ADJUSTMENT

Students may make schedule adjustments throughout the announced registration period. A special schedule adjustment week following the close of the registration period provides an opportunity for students **previously registered** to make required adjustments to their schedules. Generally, classes are closed after the classes have met one time. However, students may add one or more classes as a part of their schedule adjustment after the first class meeting provided:

1. The class is not cancelled or closed,
2. The students were pre-advised or otherwise fully admissible to the courses for which they add,

3. The students have permission (if required) from the appropriate Department Head to go into the class or classes added.

CLASS ATTENDANCE

Absences seriously disrupt a student's orderly progress in a course, and there is a close correlation between the number of absences and the final grade. Although on occasional absence might be unavoidable, the absence in no way excuses a student from meeting the requirements of the course. The student is still responsible for preparing all assignments for the next class and for completing work missed. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course and authority to determine whether the student shall be reinstated.

WITHDRAWAL FROM CLASSES

A student who for any reason cannot complete a course may officially withdraw prior to the last ten calendar days of the quarter. The request for official withdrawal must be presented to the Registration Center. Exceptions to the ten day deadline will be made in hardship cases with the approval of the curriculum vice president. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course and to determine whether the student shall be reinstated. If the student is withdrawn and not reinstated, a final grade of "W" will be assigned for the course.

COURSE LOAD

A degree or diploma student who is registered for the equivalent of at least twelve quarter hours of credit is considered a full-time student. Students in College Transfer and business programs normally may take a maximum of 18 credit hours each quarter. Students desiring to take in excess of 18 credit hours must obtain special permission from the curriculum Vice-President or the area representative.

LETTER GRADES

The following letter grades are used at Central Piedmont Community College:

- A: The student has met the maximum obtainable objectives established for the course as set up by the instructor and the department involved.
- B: The student has met objectives for above standard course work as set up by the instructor and the department involved.
- C: The student has met the minimum objectives of the course as set up by the instructor and the department involved.
- IM: Incomplete (Makeup) The student, in the opinion of the instructor, has made substantial progress toward, but has not met, the minimum objectives established for the course. Removal of the IM may be accomplished by the completion of the remaining objectives in a manner and time decided upon by the student, instructor, and department head involved. IM will not count as credit hours attempted. A student need not re-enroll to remove an IM. An IM must be resolved within two quarters.
- IR: Incomplete (Repeat) The student has not, in the opinion of the instructor, made substantial, if any, progress toward the minimum objectives established for the course and is likely to benefit by repeating the course. IR will not count as credit hours attempted. The student must re-enroll to remove an IR.
- S: Satisfactory
- X: Credit by Exemption
- W: Official Withdrawal
- AUD: Audit

CREDIT BY EXAMINATION

Upon petition from a student, credit by examination may be given. If circumstantial evidence indicates the probability of special aptitude or knowledge on the part of the petitioner, a written, oral and/or performance examination will be developed and administered by an instructor of the course. The examination is subject to the approval of the department head. Prior to the administration of the examination, the student will be interviewed by the instructor to determine the student's eligibility for the examination. If the student achieves satisfactory performance on the examination, a grade of "X" will be recorded. The "X" grade carries no quality points, but credit hours will be given identical to the number of credit hours normally assigned to said course at Central Piedmont Community College.

COURSE WAIVER

A student may be permitted to waive a course which is ordinarily required if approval is obtained from the curriculum department head and Vice-President. No credit hours shall be granted. No substitute course is required unless failure to do so would place the student's total hours below that required for graduation.

COURSE SUBSTITUTION

Course substitutions are permitted upon the recommendation of the curriculum department head and with the approval of the Vice-President of the student's curriculum. In many instances, concurrence of the head of the department offering the substituting course is advisable.

REPEATING SUCCESSFULLY COMPLETED COURSES

If students wish to repeat a course in which they have received passing grades twice, they must secure departmental permission before being permitted to register again for the course.

QUALITY POINT AVERAGE

A student's quality point average is the equivalent of the numerical average for all course work completed by the student. As the student progresses toward graduation and/or transfer, a quality point average of 2.0 is equivalent to an average grade of "C" on all courses attempted. Students should refer to the Student Handbook for instructions pertaining to the calculation of their quality point average.

GRADUATION

DEGREES: Central Piedmont Community College awards three degrees: (1) the **Associate in Arts**, (2) the **Associate in Applied Science**, and (3) the **Associate in General Education**. Requirements for degrees are as follows:

- (1) The Associate in Arts Degree (A two-year degree acceptable for transfer to senior colleges and universities)
 - (a) Completion of required 1000 and 2000 level courses totaling a minimum of 96 credit hours, with
 - (b) official copies of high school and other college transcripts on file in the student's record folder at CPCC.
 - (c) The final 16 credit hours in this program must be taken in residence at CPCC.
- (2) The Associate in Applied Science Degree
 - (a) Completion of required courses in the student's program of study totaling a minimum of 96 credit hours, with
 - (b) official copies of high school and other college transcripts on file in the student's record folder at CPCC.
 - (c) The final 16 credit hours in this program must be taken in residence at CPCC.
- (3) The Associate in General Education Degree
 - (a) Completion of 96 hours of college credit courses; or
 - (b) completion of 32 additional hours of college credit courses if the student has previously earned another degree; with
 - (c) official copies of high school and other college transcripts on file in the student's record folder at CPCC.
 - (d) The final 16 hours in this program must be taken in residence at CPCC.

DIPLOMAS: Central Piedmont Community College also awards diplomas in various programs. Requirements for diplomas are as follows:

- (a) Completion of a minimum of 60 credit hours of required study in programs of vocational career study; with
- (b) official copies of high school and other college transcripts on file in the student's record folder at CPCC when this is a program requirement.
- (c) The final 15 hours in diploma programs must be taken in residence at CPCC.

CERTIFICATES: Certificates for certain courses having specific requirements are also awarded by CPCC.

PROCESSING OF GRADUATION CERTIFICATION

- (1) If a student is within two quarters of graduation, including the current quarter of enrollment, a Graduation Request Form should be obtained from the Graduation Certification Office in the Terrell Building (Room 218).
- (2) After receiving this form, staff in the Graduation Certification Office will review all records in the student's folder and will provide a list of courses that must be completed in the final quarter of study.
- (3) During the last quarter that you complete this list of requirements, fill out an order form for a diploma or degree at the graduation check offices. Submit this form to the Bookstore with \$7 to pay for printing, handling, and mailing, and the diploma or degree will be mailed to you.

STUDENT RECORDS AND TRANSCRIPTS

The College maintains the position that students' records are their own property; therefore, this information is released only when the student presents a signed request to the Records Office. Students may have copies of their transcripts sent to any institution or individual they choose. They may also secure copies for their own use. The first two copies are free. After that, \$1.00 per copy is charged.

III. FINANCIAL INFORMATION

TUITION AND FEES

Since the College receives financial support through local, state and federal sources, tuition is very low. Tuition charges are set by the North Carolina State Board of Education and are subject to change without notice. For in-state students registered for credit courses, tuition and fees are as follows:

FEES

Student Publication and Activity Fee — \$1.00 per quarter.

TUITION

ASSOCIATE IN ARTS
ASSOCIATE IN APPLIED SCIENCE
ASSOCIATE IN GENERAL EDUCATION
DIPLOMA CURRICULA

Students enrolled for 12 quarter hours or more — \$39.00 per quarter. Students enrolled for fewer than 12 hours — \$3.25 per quarter. A \$5.00 registration fee is charged for non-credit courses in the Continuing Education Program. There is no charge for Adult Basic Education Courses. Self-supporting courses are charged for at the rate of 85c per contact hour. The student publication and activity fee (\$1.00) must be paid at registration.

Out-of-state students will pay tuition each quarter as described below: Academic years 1980-82:

Students enrolled in 12 quarter hours or more — \$198.00 per quarter.

Students enrolled in fewer than 12 quarter hours — \$16.50 per quarter hour.

RESIDENCE STATUS

A legal resident of North Carolina is one who has domicile in this state. It is important that all applicants for admission and all enrolled students know their residence status for tuition payment and understand the regulations governing status. The "Student Residence Manual" is available for review in the Registrar's Office. The following regulations cover most factual situations.

1. Persons eighteen years of age or older are not deemed eligible for the lower tuition rate unless they have maintained legal residence in North Carolina for at least the twelve months next preceding the date of their enrollment in an institution of higher education in this state.

2. The legal residence of a person under eighteen years of age at the time of enrollment in an institution of higher education in this state is that of the student's parents, surviving parent or legal guardian. If the parents are divorced or legally separated the legal residence of the minor is that of the parent to whom legal custody has been awarded. If custody has not been awarded to either parent, the domicile of the minor is that of the parent with whom the minor lives.
3. The residence status of all students is determined as of the time of their enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (A) in the case of a nonresident minor student at the time of enrollment whose parents have subsequently established legal residence in North Carolina; (B) in the case of a resident who abandons legal residence in North Carolina; and (C) in the case of a nonresident student at the time of enrollment who has established legal residence in North Carolina and has maintained that status for the preceding twelve months.
4. Military personnel attached to military posts or reservations in North Carolina are not considered eligible for the lower tuition rate unless they have maintained a legal residence in the state for at least the twelve months next preceding the date of enrollment in an institution of higher education in this state.
5. Aliens lawfully admitted to the United States for permanent residence who have established a legal residence in North Carolina according to above paragraphs numbered 1, 2, and 4 are eligible for the lower tuition rate. A person holding a student visa cannot be classified as a resident for tuition purposes.
6. Ownership of property in or payment of taxes to the State of North Carolina apart from legal ownership will not in itself qualify one for the lower tuition rate. Please note: any student or prospective student in doubt concerning residence status must bear the responsibility for securing a ruling by stating their case in writing to the Office of the Registrar. Students who feel they have met the residence requirements must contact the Registrar's office for approval and for completion of the proper change of residence form.

REFUND POLICY

Two-thirds of the tuition paid by a student will be refunded if the student withdraws from the College within ten calendar days after the first day of classes as published in the College calendar. If a student voluntarily withdraws from a class while remaining enrolled in the College, no refund will be received for courses dropped. If a class is cancelled by the College, that portion of a student's tuition which was paid for the cancelled class will be refunded in full.

The activity-publication fee is not refundable. Tuition refunds of \$5.00 or less will not be made except for classes cancelled by the College.

POLICIES AND PROCEDURES CONCERNING THE RELEASE OF STUDENT INFORMATION

Central Piedmont Community College, in the execution of its responsibilities to students, must maintain accurate and confidential student records. The College staff must recognize the rights of students to have access to their academic and personal records in accordance with existing college policy and the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

A. DEFINITION OF TERM "EDUCATIONAL RECORDS"

1. These regulations as defined under the provisions of the Family Educational Rights and Privacy Act of 1974 include files, documents, and other materials which contain information directly related to students and which are maintained by an educational institution in an authority on behalf of the institution.

The term "educational record", under the provision of the law, does not include the following:

- a. Records of institutional, supervisory, and administrative personnel which are in the sole possession of the maker and which are not accessible or revealed to any other person except a substitute for the above named personnel;
- b. Records and documents of Security Officers of the institution which are kept apart from such educational records;
- c. Records on students which are made or maintained by a physician, psychiatrist, psychologist, counselor, or other recognized professionals or para-professionals acting in their official capacity and which are made, maintained, or used only in connection with a provision for treatment for the students and not available to any one other than persons providing such treatment, except that such records can be personally reviewed by a physician or other appropriate professional of a given student's choice;
- d. Financial records of the parents of the students or other information therein contained;
- e. Confidential recommendations if a given student has signed a waiver of the student's rights of access, provided that such a waiver **may not** be required of the student; and
- f. Confidential letters or statements of recommendation which were placed in educational records prior to January 1, 1975, if such records or statements are not used for purposes other than those for which they were specifically intended.

B. CONTROL PROVISIONS ON STUDENT RECORDS AND STUDENT INFORMATION

1. Transcripts and other information are released only with written permission of the student. When information other than the transcript is released from the student's official record (Student Records), the student will receive a copy of the release.
2. Students have the right to inspect their own records whether recorded in hard copy form or recorded in the form of magnetic disks and microfilm. Upon inspection the students are entitled to an explanation of any information contained in their record.
3. The official student file shall not be sent outside the Counseling Office, Records Office, Information Services, Financial Aid Office, Veterans Affairs Office, or other custodial office except in circumstances specifically authorized by the appropriate vice president. The authorization for such special circumstances must be in writing.

C. RELEASE OF STUDENT'S EDUCATIONAL RECORDS TO EDUCATIONAL INSTITUTIONS AND STATE AND FEDERAL AGENCIES

1. Such requests for confidential information shall not be honored without proper written consent for the release of such records by the student except under conditions indicated in paragraphs C-2 and C-5.
 - a. The written consent must specify the records or the specific data to be released, to whom it is to be released, and the reasons for release.
 - b. Each request for consent must be specific, and each request must be handled separately.
2. Request for confidential information will be honored without prior consent of the student in connection with an

emergency, if the knowledge of such information by appropriate persons is necessary (in view of a reasonable person) to protect the health or safety of the student or other persons. However, such a release shall have the approval of a cabinet officer unless it can be shown that under the circumstances time would not permit or a cabinet officer was available.

3. The following "Directory Information" may be made available to the public by the College unless students notify the Vice President of Student Services in writing by the third week of the quarter that such information concerning themselves is not to be made available:
 - a. Student's name and hometown,
 - b. Major field of study or program,
 - c. Dates of attendance, degrees, diplomas, or awards received and the most recent previous educational institution, and
 - d. Place of birth.

4. **Information Other Than "Directory Information"**

Any release of student information for public use or use by the media except that designed above (paragraph 3) must have prior written approval by students involved.

5. **Disclosure to Government Agencies**

Properly identified and authorized representatives of or bona fide written requests from the Comptroller General of the United States; the Secretary of Health, Education and Welfare; an administrative head of a federal education agency; or state educational authorities may have access to student or other records which may be necessary in connection with the audit and evaluation of federal or state supported educational programs or in connection with enforcement of the federal or legal requirements which relate to such programs. Routine requests for student data from such agencies as HEW, OEO, research agencies, and state reporting agencies may be honored without prior approval of the student only in formats where students are not identified.

6. Faculty and administrative officers of the College who demonstrate a legitimate educational need will be permitted to look at the official student file for a particular student.
7. Confidential information requested by other than federal or state agencies as specified in paragraph 5 above will be released only under the following conditions:
 - a. An official order of a court of competent jurisdiction, or
 - b. Subpoena (students will be notified immediately by registered mail that their records are being subpoenaed.)

8. **Record of Who Has Access**

A record of access to the official student file will be maintained within the file itself. This record will show the **name, address, date, and purpose** of the person who has been granted access. All persons who have access will be included in this record except those institutional employees who, because of the nature of their duties, have been granted access.

D. **STUDENTS' RIGHTS TO QUESTION CONTENT OF THEIR OFFICIAL STUDENT FILES**

1. Students have the right to review their own official record or other educational records on themselves that are maintained by the institution (paragraph B-2, page 14). Furthermore, students may question any inaccurate or misleading information and request correction or deletion of that data from their files.
2. All requests for correction of file data will be directed to the official custodian of the file and will become a part of the file in question.
3. All requests for correction of a student file will be acted upon within 45 days of receipt of the request. If the custodian can verify that such data is, in fact, in error, appropriate corrections will be made and the student will be notified in writing when the correction has been completed. If an error cannot be readily substantiated, the request will be referred to an Ad Hoc Hearing Committee appointed by the Executive Vice President.

After students have had the opportunity to present their case to the hearing committee, the committee will render a decision in writing stating the reasons for their decision. If the decision is in agreement with the students' request, the students will be permitted to review the file to satisfy themselves that the change has been correctly made. If the students' request is denied, they will be permitted to append a statement to the record in question, showing the basis for their disagreement with the denial. Such appendages will become a permanent part of the record.

E. **ANNUAL NOTICE TO STUDENTS OF THEIR RIGHTS UNDER FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974**

1. A general statement regarding release and access of student information will be published in the College catalog.
2. The College policy on access to and release of student information will be made available to students, faculty, and staff. This information will be placed in the Student Handbook and will specify the procedures for release of student information, student access to records, a description of all student records being maintained by the College, and the procedure for students to initiate a hearing to challenge accuracy of educational records.

IV. STUDENT SERVICES

Academic life creates many challenges for students. To assist them in meeting these challenges and to provide opportunities for their maximum development, a number of services and activities for students supplement the academic program. Because utmost realization of individual potential is the result of cooperative endeavor, the Student Services Division at CPCC strives to establish and maintain positive relationships with students, members of the faculty, the administration, and the community.

COUNSELING

The primary objective of the Counseling Services Department is to assist students in reaching their educational and vocational goals by providing admission counseling and academic advising. Students enrolling at CPCC are encouraged, with this assistance, to review the compatibility of their educational needs and vocational objectives with requirements of the program they plan to pursue. Students who are undecided about their careers or who are planning career changes can receive special attention through the Counseling Services Department.

Members of the Counseling Services staff also provide personal counseling for students on a time-available basis. Students are referred to appropriate community agencies when they can be helped more effectively in this way. Counselors at CPCC are also available to the community on a consultant basis.

STUDENT ACTIVITIES

TAYLOR HALL

The recreation center is located in Taylor Hall just to the right of the main lobby. There you will find pool tables, table tennis tables, and game machines.

The hours of the recreation center are 8:30 a.m.-8 p.m. Monday through Thursday and 8:30 a.m. to 4:00 p.m. Friday.

As you enter this building, one will find a multi-purpose room on the left where students may play basketball, volleyball, badminton and a variety of indoor sports, or a student may exercise there. The open hours are posted and vary according to the class schedule. Questions concerning schedules and activities can be answered by the attendant at the information desk in the main lobby.

CENTRAL FORUM

The cafeteria, located at the corner of old Kings Drive and Elizabeth Avenue, is leased to and operated by a commercial food service company and offers breakfast, plate lunches, short orders and a deli. Breakfast is served from 7:30 a.m. to 9:30 a.m. The Forum is open from 7:30 a.m. to 2:30 p.m., Monday through Friday. From Fall Quarter through Spring Quarter, a snack bar is open from 8:00 a.m. until 2:00 p.m. in the RH Building near the Advancement Studies classroom.

STUDENT ASSOCIATION

The Student Association, of which every registered CPCC student is a member, consists of a Student Senate and 17 Program Area Committees. Curricular areas elect students to the PAC's and, in turn, members of the PAC's are appointed to the Student Senate. This is a unique concept of student representation and every interested student is urged to participate. A copy of the Student Association constitution and other information about the Student Association is available in the Student Association office, Room 102 of Taylor Hall.

INTRAMURAL SPORTS

Several sports, indoor and outdoor, make up the intramural program. In the multipurpose room we will conduct basketball, volleyball, badminton and other intramural programs in which students show an interest. Outdoor sports include tennis, golf and softball. In some of these, individuals are chosen to make up All-Star Teams which play area colleges.

In addition to the above, CPCC has soccer and football clubs, open to all interested students. Information on all athletic activity is available in Room 102 of Taylor Hall.

STUDENT ORGANIZATIONS

The College encourages participation by students in all areas of campus life and affairs. Student organizations are chartered by the Student Association and are aided in the planning of their activities by the Director of Student Activities and in the financing of these activities by the Student Association. These organizations include service organizations, special interest groups, athletic clubs, honors societies and professional organizations. A complete list of organizations is included in the Student Handbook.

SOCIAL AND CULTURAL EVENTS

The area of Student Activities, working with the Student Association, plans and sponsors various social and cultural events during the year. Included in these activities are concerts, lectures, field days, athletic events, music and drama productions.

STUDENT PUBLICATIONS

The area of Student Activities utilizes a variety of communication methods, including a weekly **Student Newsletter**, and **The Spark**, a student newspaper, (five issues quarterly) to keep students informed of campus activities. The Paul Atwell Memorial Literary Magazine, published twice yearly, serves as a showcase for creative writing and graphics.

The Student Handbook, published as needed, contains much useful information for students and serves as a guide to those unfamiliar with the campus.

Contact the Student Activities Office, Taylor Hall, Room 102 for further information.

FINANCIAL AID

Students who are enrolled or accepted for enrollment in a one-year program and leading to a certificate, diploma or degree may apply for financial assistance. In considering an applicant for aid, the entire student's living expenses are taken into account, not just tuition and book costs. Students taking less than 12 credit hours but at least 6 credit hours may receive aid reduced in proportion to their academic load. Awards generally range from \$50 to \$4,000 per year and come from one or more of the following sources:

1. Basic Grants (BEOG)
2. Supplemental Grants (SEOG)
3. North Carolina Student Incentive Grant Program
4. Local Scholarships
5. The College Work-Study Program
6. Nursing Loans and Scholarships
7. National Direct Student Loans
8. Guaranteed Student Loans
9. Emergency Short-Term Loans

Basic Grants and employment through the College Work-Study program comprise the great majority of aid to students.

Satisfactory Progress

Students receiving financial aid must maintain satisfactory progress. Satisfactory Progress is defined as:

"the satisfactory completion of a minimum of 6 credit hours per quarter, or 50% of the credit hours carried, whichever is less."

This definition is not applicable for purposes of continued enrollment in a program, since such determinations will be made by the College in accordance with institutional policy. Students who fail to maintain these standards will not be suspended, but aid funds will have to be interrupted until satisfactory progress is reached. Refer to the Financial Aid Brochure for more detailed information.

Because Central Piedmont Community College defines its academic year as 12 months, financial aid awards are made on that basis. Students are encouraged (in some cases required) to attend consecutive quarters until the program of study is

completed in order to remain in proper sequence. The Summer Quarter is a full quarter with no significant reduction in course offerings and is not regarded as "optional" as summer periods often are at traditional institutions.

Appeal Process on Satisfactory Progress

If circumstances beyond a student's control lead to unsatisfactory progress, a student may appeal in writing to the Financial Aid Committee. The committee will then determine whether to restore the aid, and under what conditions.

Time-Limitation Policy

Due to an increasing number of new aid applicants, it has become necessary to set a time limit on aid to students. The policy reads:

"A student will be eligible to apply for and/or receive financial aid at Central Piedmont Community College for the number of quarters required for completion in their particular curriculum plus up to three additional quarters (allowing for failing, program change, etc.). Any quarter in which a student registers and does not withdraw during the first five days of class shall be counted, regardless of the student's financial aid status. At the end of the number of quarters, all campus-based financial aid will be discontinued."

This policy does not apply to the Basic Grant Program in which a student may receive funds for up to four years as long as Satisfactory Progress is being made toward completion.

Appeal Process on Time-Limitation Policy

Students with extenuating circumstances may appeal to the Financial Aid Committee for an extension reinstatement. The appeal must be in writing and will be voted upon at a regularly scheduled meeting.

First Degree Waiver

Generally, students who have already earned a degree from CPCC are not funded for the pursuit of a second degree. However, students may appeal to the Financial Aid Committee for consideration. The appeal must be in writing and will be voted upon at a regularly scheduled meeting.

Student Aid Defaults

Current or former students who owe student aid refunds, are in default on student loans, who falsify records related to attendance at Central Piedmont Community College, or who owe any funds to the college, may have transcripts held until such matters are cleared.

TYPES OF ASSISTANCE

Basic Educational Opportunity Grants

The Basic Educational Opportunity Grant is a federal aid program providing funds for qualified students enrolling at least half time in an eligible program in an eligible institution of higher education. The grant cannot exceed the need of the student nor can it exceed the student's adjusted share under current federal allotments. The maximum grant at Central Piedmont Community College is approximately \$800 per year. Students with bachelor's degrees are not eligible.

Supplementary Educational Opportunity Grants

The Supplementary Educational Opportunity Grants Program is designed specifically for students from low income families, with particular attention given to those families whose incomes allow little if any contribution toward college expenses. The SEOG Program is federally funded, and the amount must be equally matched with other aid, such as scholarships, National Direct Student Loan, College Work-Study Program earnings, or Basic Grants.

North Carolina Student Incentive Grant Program

Legal residents of North Carolina accepted for enrollment or enrolled full time, in good standing, in an undergraduate program of study in an eligible college, university, technical or vocational school in North Carolina may apply for Student Incentive Grants to help pay their educational expenses. Students must demonstrate "substantial financial need" as determined through the need analysis system of either the College Scholarship Service or American College Testing Program. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education but may not exceed \$1,500 per academic year.

Scholarships

Students do not apply for specific scholarships at Central Piedmont Community College. All qualified applicants are considered for available scholarships. The total value of a scholarship awarded to a student is payable in amounts prorated to each quarter of the college year. The initial award is made for one quarter; upon evidence of satisfactory performance by the recipient, the award is renewable. An award for the second year may be made upon approval of a new application. A complete listing of scholarship donors is to be found in the Financial Aid Brochure.

The College Work-Study Program

A major form of financial aid available to students consists of employment through the College under the Federal College Work-Study Program. A schedule is arranged so that students work around their classes for up to 20 hours per week either on campus or at a non-profit agency in the Charlotte-Mecklenburg area.

Nursing Student Assistance Program

The Nursing Student Loan and Nursing Scholarship Programs assist students who need financial aid to pursue a course of study leading to an associate degree in nursing. The goal is to increase the opportunities for individuals seeking careers in nursing by providing scholarships and long-term, low-interest (3%) loans to students who are in need of such assistance. The maximum Nursing Student Loan available to an individual borrower in a 12-month period is \$2,500. A borrower may cancel a portion of the loan by full-time employment as a professional nurse.

National Direct Student Loan Program

Central Piedmont Community College is participating in the National Direct Student Loan Program. This program makes funds available to students who are taking at least a half-time schedule in one of the Diploma or Degree Programs and who need a loan to meet educational expenses.

The National Direct Student Loan Program makes provisions for students to borrow up to \$2,500 during their first two years of college. Three per cent interest per year is charged on the unpaid balance, beginning nine months after the borrower ceases to pursue a course of study at an institution of higher learning.

The College Foundation, Inc. Loan Funds

The College Foundation, Inc., Raleigh, North Carolina, administers several loan funds including the Guaranteed Stu-

dent Loan. Legal residents of North Carolina who are attending at least half-time at an institution of higher education may borrow up to \$2,500 per year for educational expenses. The Federal Government will pay the 7% interest on the loan while the student is in school and before repayment begins for students who qualify for federal interest benefits. The minimum repayment is \$30.00 per month, plus interest, and the loan must be repaid within 10 years. Applications may be obtained from the Financial Aid Office.

Emergency Short-Term Loans

A limited amount of money is available to assist students in emergency situations. Assistance of this type is limited to \$50, or tuition and fees, whichever is less and must be repaid within 90 days.

The Prospective Teachers Scholarship Loan Fund

Prospective teachers may borrow up to \$600 per year for educational expenses through the scholarship loan program, which is administered by the Department of Public Instruction in Raleigh. A student may have up to \$600 of the total loan cancelled for each school year spent teaching in a North Carolina school. For complete details regarding the program, interested applicants should contact the Prospective Teachers Scholarship Loan Fund, State Department of Public Instruction, Raleigh, North Carolina. Applications are also available in the Financial Aid Office.

FINANCIAL ASSISTANCE FOR VETERANS AND OTHER ELIGIBLE PERSONS

The College provides educational opportunities for veterans, disabled veterans and eligible persons (spouse and/or dependents) of deceased or disabled veterans, those missing in action, and prisoners of war on both the college and high school levels. For additional information regarding these benefits which are administered by the Veterans Administration, persons should contact one of the following offices: the County Veterans Service Office, the District Office of the North Carolina Department of Veterans Affairs, the College Office of Veterans Affairs, or the Veterans Administration Regional Office, Winston-Salem, N.C. The College also assists recipients of North Carolina Veterans Commission Scholarships. Students seeking these scholarships should contact the state office, district office, or the College Office of Veterans Affairs.

1. ACADEMIC REQUIREMENTS, REPORTING PROCEDURES AND RECORDS

A. Academic Requirements

The Veterans Administration has determined that the College has a **"non-punitive" grading policy** for veteran benefit purposes. This means a veteran /eligible person must pass required program courses for VA benefits unless there are mitigating circumstances. Grades that are excluded from calculation in graduation requirements are prohibited under this policy.

Class attendance is necessary. "Full-term" attendance is expected through the last scheduled class session of the quarter. CPCC instructors are required to report promptly **last date of attendance** and any known mitigating circumstances.

B. Reporting Procedures

1. Guidelines in reporting requirements to VA:

- Veterans will not be penalized for official drops or withdrawals during a VA-established drop/add period of 30 calendar days.
- Pay adjustments for unofficial drops (any time) and official drops or withdrawals for 30 days will be retroactive to the first day of the quarter unless there are mitigating circumstances.
- Pay adjustments for **"never attended"** will be retroactive to the first day of the quarter or the last day of the previous enrollment, whichever is applicable.
- No pay will be awarded for any IM, IR, or W unless there are acceptable mitigating circumstances to VA.
- Documentation may/will be required by VA for any mitigating circumstances.
- Any overpayments will have to be repaid to VA.

2. Mitigating Circumstances — some examples acceptable to VA:

- Demonstrated "good faith pursuit."
- Evidence of receipt of tutorial, advisor or counseling assistance.
- Accident, illness or death (personal or immediate family).
- Military, National Guard or Reserve duty training.
- Job conflict or financial problems requiring changes in employment, class schedule adjustment or drops which precluded satisfactory pursuit of course.
- This list is not all-inclusive according to VA.

3. For All Veterans

Veterans are responsible for notifying the College OVA and VA immediately of any change in their student status, such as drop/adds, stopped attendance, withdrawal, program changes, or graduation. All status changes and course-load adjustments for non-attendance (never, lack of) will be promptly reported to VA. There will be no reinstatements for non-attendance for the quarter in which it was reported, unless there are mitigating circumstances. For further information contact the College Office of Veteran Affairs.

4. Degree Veterans

Instructors are required to submit "Degree Veterans Exceptional Reports" on a continuous basis to the College Office of Veterans Affairs.

5. Diploma Veterans

Diploma veterans (trade, adult high school, and GED) are required to turn in attendance sheets each month. They are due no later than the fifth of the following month and the last day of each quarter. Failure to turn in this report will result in prompt termination of benefits.

C. Records

"Records of progress are kept by this Institution on veteran and non-veteran students alike. Progress records are furnished to the students, veterans and non-veteran alike at the end of each scheduled school term."

D. Veterans as Regular Students

Veterans may attend CPCC as regular students regardless of their VA benefit status.

2. SEE OTHER INFORMATION IN THE CATALOG CONCERNING ALL STUDENTS

SOCIAL SECURITY ADMINISTRATION AND OTHER GOVERNMENT AGENCY BENEFITS PROGRAMS

The College provides advisement and certification services for students (adult basic high school and college levels) who are eligible for Social Security, Civil Service, Railroad Retirement, N. C. National Guard Tuition Assistance, Active Military Personnel Tuition Assistance, and other governmental and Armed Forces Reserve benefits. Students seeking assistance under these programs should contact the respective agency or the college Office of Veterans Affairs.

SUPPORTIVE SERVICES FOR THE EXCEPTIONAL

The College is aware that the implementation of the "open door" policy will bring to its campus students whose physical and mental abilities are relatively impaired. The College assures that there are equal opportunities and accessibility to these individuals regardless of their disabilities.

A comprehensive program of support services is available for the visually impaired, hearing impaired, physically or motor impaired, emotionally disturbed, and mentally retarded. These supportive services facilitate the total integration of all exceptional students into the regular College program and its services.

Physical accessibility is made possible through specially designated parking spaces and removal of architectural barriers. Services for the visually impaired consist of orientation to the campus, braille, taping, reading services, and job-seeking skills. The most recent addition to services for the visually impaired is Optacon training. The Optacon (optical-to-tactile-converter) is an electronic device by which the visually impaired person can read regular print. The training begins during the student's first quarter, and by graduation, the student is able to use the Optacon on the job as well as in personal reading, such as newspapers, and typed letters.

In addition, Central Piedmont Community College is the only community college in North Carolina that operates a post-secondary program for the hearing impaired. Established in 1974 through a Vocational Rehabilitation expansion grant, the program provides (1) interpreting, notetaking, and tutorial services and (2) academic, social, and personal counseling through a specially trained counselor.

The majority of exceptional students are sponsored by the North Carolina Division of Vocational Rehabilitation and the North Carolina Division of Services for the Blind. Those interested in enrolling at Central Piedmont Community College and who require the above services may contact the office of Special Services and/or the local, district, or state offices of the above agencies.

STUDENT EMPLOYMENT CENTER

Assistance in obtaining part-time and full-time employment is given at the Student Employment Center located in Suite 239 of the Garinger Building. The Student Employment Advisor assists students while in school to find part-time employment to meet their financial needs during time to study. The Placement Advisor assists alumni and students enrolled in their search for full-time employment. Further information and assistance can be obtained from the Student Employment Center.

BOOKSTORE

It is the student's responsibility to obtain the required textbooks and supplies prior to the first meeting of a class. The College maintains a bookstore from which the student may purchase the necessary books and supplies. The bookstore will buy used books from the students when possible.

PARKING

The campus includes paved and well-lighted parking areas. Students may use these parking lots except for those reserved for faculty. Access to student lots is controlled by "free-in pay out" gates which operate automatically. This type of procedure requires the student to insert coins in the appropriate receptacle on leaving a parking lot. The gate will then raise to enable the individual to leave.

As an additional protection to students, their cars must be registered each year at the fall quarter (or whenever a student first registers). Each student is given a Central Piedmont Community College sticker that is to be affixed to the rear bumper.

LOST AND FOUND

A lost and found service is located on the second floor of the Terrell Administration Building at the Information Counter.

STUDENT ACCIDENT INSURANCE

Central Piedmont Community College has approved for CPCC students an Accident Medical Plan.

The plan insures the student against loss resulting from accidental bodily injuries sustained while on campus or while participating in or attending an activity exclusively organized, sponsored and solely supervised by the College and College employees, including travel directly to or from such activity in a vehicle furnished by the College.

The plan pays the cost of medical and surgical treatment, including hospital confinement and the services of a trained nurse, for such treatment incurred within one year from the date of accident up to \$1,000 for each accident.

Coverage begins at the time tuition is paid when you apply for such coverage and ends at the end of that quarter.

If you are interested in this plan, the cost is \$1.75 per quarter and payable at the time of registration.

EMERGENCY FIRST AID TEAM

Central Piedmont Community College's first aid team members are certified in Standard First Aid and CPR. Two members are on duty from 8:30 a.m. until 9:00 p.m., Monday through Thursday, and from 8:00 a.m. until 5:00 p.m. on Friday.

The Emergency First Aid Team provides medical service to students, staff, faculty, and administration. If you have or see a MEDICAL EMERGENCY, call 6444 for aid.

HOUSING

The College does not provide living accommodations for students. In all cases, students are responsible for making their own arrangements for housing.

A card file listing of available rooms and apartments is maintained in the Office of Student Activities (Taylor Hall, Room 102). Many of these accommodations are within walking distance of the College or are conveniently located to bus service. One nearby college has opened dormitories to female students at Central Piedmont Community College where room and board or room only plans are available.

FOREIGN STUDENTS

Central Piedmont Community College is authorized under Federal law to enroll nonimmigrant alien students. Accordingly, a Certificate of Eligibility (on I-20 Form) will be issued to anyone who meets the admission requirements, provided that the particular country's quota is not filled.

Any foreign adult (nonimmigrant) who is seeking admittance under an F-1 student visa should contact the Foreign Student Advisor in Krott Hall 207-A for admission requirements. The advisor will assist foreign students in such matters as extension of stay and transfers for the purpose of continuing their education.

Legal residents on permanent visa (green card holders) are admitted in the same manner as native Americans. Foreign visitors holding B-2 visas or other visas may enroll as special credit or extension students as long as they hold a valid visa. The student in such case is responsible for the validity of the visa. Regardless of visa status, students are expected to meet the same standard of English proficiency required for foreign-born citizens.

CONDUCT OF STUDENTS

College students are considered to be mature individuals. Their conduct, both in and out of College, is expected to be that of any respectable adult in a public place. Under these circumstances, it is expected that the student will at all times remember that he/she is living in a democratic situation and that the reputation of the institution rests on his/her shoulders. Common courtesy and cooperation make the above suffice for a long list of rules.

However, students should note that the possession, consumption, or distribution of alcohol or illicit drugs on campus is specifically prohibited and regulated by state statute and violators will be prosecuted by civil authorities.

Failure to meet standards of conduct acceptable to the College may result in disciplinary suspension. The procedure stated below will be followed when disciplinary action against a student is being considered:

1. The student will be informed of the charges against him/her both in writing and in conference with the Vice President for Student Services or representative.
2. The student will be advised of the date, time, location, and procedures of the meeting in which the charges will be presented.
3. The charges will be described and examined at a meeting of the accusers, the student, the Vice President for Student Services or representatives, advisors and assistants that either party wishes to bring. The Vice President for Student Services must be notified within two days of the hearing regarding anyone other than the principal parties who will be attending.
4. The Vice President for Student Services will have two days following the hearing to consult again with all parties, as may be necessary, and render a decision.
5. Decision may be appealed to the Executive Vice President and the President of the College.
6. A student who is dismissed must apply to the Vice President for Student Services before re-admission can be approved.

STUDENT GRIEVANCE PROCEDURE

Students wishing to appeal any decision affecting their status at Central Piedmont Community College should first appeal the decision to the instructor or staff member making the decision. If the student is not satisfied and the problem involves a curriculum matter, an appeal may be made through the appropriate curriculum department head to the curriculum Vice-President and the President. Non-curriculum matters follow the same route except through the Vice-President for Student Services rather than the curriculum Vice-President. All such appeals should be in writing and state the basic facts of the case.

A grievance related to discrimination should first be presented to the compliance officer. Grievances related to section 504 of the Rehabilitation Act of 1973 should be directed to the Director of Special Services and for Title IX to Ms. Betty J. Funderburke.



PROGRAMS OFFERED

The following alphabetical list of programs offers a wide range of subjects for the student. These programs are listed by the main title with sub-titles when options are offered. The suggested courses making up the program are listed in quarter sequences to show the class hours (CLS), laboratory hours (LAB), clinic hours (CLN), and quarter hours credit (QTR-HRS-CR). The course titles are abbreviated but full titles are given in section of catalog entitled "Course Designation, Titles and Description."

ACCOUNTING

Accounting is often called the "language of business." It is the language employed to communicate financial information to report operating results. The accounting profession is important to the complete spectrum of economic enterprise, ranging from governmental units to small private businesses. Accounting is required in all forms of business operations including sole proprietorships, partnerships and corporations. Positions are available to accountants in general accounting, auditing, payroll accounting and other specialized areas such as accounts receivable, accounts payable and general assets.

DESCRIPTION OF CURRICULUM

The Accounting curriculum is designed to provide sound academic training in the interpretation and accumulation of accounting data. The student learns to perform such duties as maintaining journals and ledgers, preparing financial statements, making special reports and analyses, preparing cost data and summarizing tax information. The Associate in Applied Science Degree in Accounting will be awarded upon successful completion of this curriculum. Students interested in transferring to a senior institution should enroll in the mathematics and communications options listed in the footnotes.

Suggested Sequence of Required Courses for Accounting

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS/WK	CLS	LAB					HRS/WK	CLS	LAB
FIRST QUARTER							SECOND QUARTER						
BUS	1400	Introduction to Business		3	2	4	BUS	2304	Business Law I		3	0	3
ACC	1604	Principles of Accounting I		5	2	6	ACC	1605	Principles of Accounting II		5	2	6
COM	1304	Introduction to Communication		3	0	3	FIN	3315	Business Mathematics II*		3	0	3
FIN	3314	Business Mathematics I*		3	0	3	COM	3305	Communications II**		3	0	3
				14	4	16					14	2	15
THIRD QUARTER							FOURTH QUARTER						
BUS	2305	Business Law II		3	0	3	ACC	2627	Intermediate Accounting II		5	2	6
ACC	2626	Intermediate Accounting I		5	2	6	ECO	2305	Economics II (or Elective)		3	0	3
ECO	2304	Economics I		3	0	3	SPH	1300	Oral Communications		3	0	3
COM	3306	Communications III**		3	0	3	FIN	4334	Business Finance I		3	0	3
		Electives***		3	0	3	EDP	3300	Introduction to Computer Concepts		3	0	3
				17	2	18					17	2	18
FIFTH QUARTER							SIXTH QUARTER						
FIN	4335	Business Finance II		3	0	3	ACC	4444	Cost Accounting		3	2	4
ACC	4447	Advanced Accounting		3	2	4	ACC	4404	Auditing		3	2	4
ACC	4425	Advanced Taxation		3	2	4	EDP	4314	Systems & Procedures		3	0	3
EDP	2306	Computer Programming I (Business)		2	2	3	BUS	3300	Applied Psychology		3	0	3
		Electives		3	0	3			Electives		3	0	3
				14	6	17					15	4	17

*MAT 1504, 1505 or MAT 1514 may be taken if student has met placement test requirements.

**COM 1305 and 1306 may be taken if student has met placement test requirements.

***SEC 3404 Typing I required of students in third quarter if they have not had one year of high school typing.

AIR CONDITIONING & REFRIGERATION

The growing use of air conditioning (heating and cooling) and refrigeration equipment systems throughout the nation provides many job opportunities for the skilled mechanics who install and repair such equipment in office buildings, factories, homes, food stores, restaurants, theaters, hospitals, churches and other establishments.

A great number of these skilled people are employed by business concerns which specialize in the repair and maintenance of commercial, industrial and home air-conditioning and refrigeration equipment. Another important element involves conversion and modernization of obsolete installations.

Employers prefer to hire people who have a background of knowledge and skill in the field and give them the opportunity to gain additional experience on the job while earning good wages.

Thousands of technicians trained to install, maintain and repair air-conditioning and refrigeration equipment are needed to meet the demand in this field.

DESCRIPTION OF CURRICULUM

The air conditioning and refrigeration curriculum at Central Piedmont Community College is designed to prepare a person for employment in this field. The student not only learns theory but also spends a large amount of time in a laboratory with up-to-date equipment. Necessary courses in mathematics, science and other related areas are included in the program. A graduate from this curriculum is awarded a diploma by the College.

Students satisfactorily completing the four quarter diploma program are eligible to enroll in the Environmental Systems Technology program with advanced standing.

Suggested Sequence of Required Courses for Air Conditioning and Refrigeration

COURSE TITLE						QTR		COURSE TITLE						QTR			
						HRS/WK	HRS							HRS/WK	HRS		
						CLS	LAB	CR							CLS	LAB	CR
FIRST QUARTER																	
AHR	5301	Intro. to Automotic Controls				3	0	3	AHR	5314	Automatic Contrals				2	3	3
AHR	5313	Refrigeration Service Prin.				2	3	3	AHR	5321	Commercial Refrigeration In-						
AHR	5411	Refrigeration Theory				4	0	4			stollotion				2	3	3
AHR	5412	Refrigeration Shop Practice				2	6	4	AHR	5333	Liquid Heot-1-Pipe Systems				2	3	3
MAT	5304	Shop Mathematics I				3	0	3	AHR	5334	Liquid Heat-2-Pipe Systems				2	3	3
PHY	5304	Shop Science I				2	2	3	PHY	5305	Shop Science II				2	2	3
						16	11	20	MAT	5305	Shop Mothematics II				3	0	3
															13	14	18
THIRD QUARTER																	
AHR	5323	Oil Burners				2	3	3	FOURTH QUARTER								
AHR	5331	Air Conditioning-Residentiol				2	3	3	AHR	5324	Environmental Control						
AHR	5322	Commercial Refrig. Service				2	3	3			Blueprint Reoding				3	0	3
AHR	5332	Air Conditioning-Commercial				2	3	3	AHR	5342	Electric Heot				2	3	3
COM	5500	Cammunications Skills				5	0	5	AHR	5443	All Weother Systems —						
AHR	5204	Wiring Diograms & Trauble —									Conventional				3	3	4
shooting for A/C Systems						1	3	2	AHR	5444	All Weother Systems —						
						14	15	19			Heat Pumps				2	6	4
									AHR	5341	Gos Heat				2	3	3
									HSA	5200	Humon Relotions,				2	0	2
									WLD	5110	Basic Oxyocetylene Welding				0	3	1
															14	18	20

NOTE: STUDENTS ARE EXPECTED TO FURNISH TOOLS FOR SELECTED COURSES.
All AHR courses may be applied as credit to Environmental Systems Technology Curriculum.

ARCHITECTURAL TECHNOLOGY

The construction industry is large and varied and provides excellent opportunities for the individual with ability and training. Depending on the organization and the size of the project, the technician may work directly with engineers or architects or may function as a liaison between them.

Architectural technicians perform many of the planning tasks necessary to communicate the architect's designs to the builder. Graduates will be competent drafters who will work directly with registered architects and other qualified technicians within the office in the preparation of complete and accurate working drawings, details and specifications. The technicians will be well informed on the building industry in general, the operation of an architect's office, building codes, methods and materials of construction, and contract documents. Upon gaining sufficient experience, they may be involved in estimating, field inspection and many other facets of architectural practice. Their advancement to positions of responsibility such as job captain or project manager will depend only on their own aspirations and abilities. With enough experience the graduate may be eligible to take the examinations to become a registered architect.

DESCRIPTION OF CURRICULUM

The curriculum of Central Piedmont Community College includes both classroom and laboratory experience with practical application to the industry. Well-qualified instructors and excellent equipment provide the students with an opportunity to secure the education they need for the many excellent positions available in this field. The degree of Associate in Applied Science in Architectural Technology is awarded upon completion of the program.

Suggested Sequence of Required Courses for Architectural Technology

COURSE TITLE						QTR			COURSE TITLE						QTR														
						HRS/WK			HRS									HRS/WK			HRS								
						LEC			LAB			CR									LEC			LAB			CR		
FIRST QUARTER																		SECOND QUARTER											
CIV	3504	Surveying I				3	6	5	CIV	3514	Statics				3	6	5	CIV	3514	Statics				3	6	5			
ARC	3434	Architectural Drafting I				2	6	4	ARC	3435	Architectural Drafting II				2	6	4	ARC	3435	Architectural Drafting II				2	6	4			
MAT	3504	Technical Mathematics I				5	0	5	PHY	1404	Physics I: Basic Mechanics				3	2	4	PHY	1404	Physics I: Basic Mechanics				3	2	4			
COM	1304	Intro. to Communication				3	0	3	MAT	3505	Tech Moth II				5	0	5	MAT	3505	Tech Moth II				5	0	5			
	*	General Education Elective				3	0	3	ARC	4200	Arch. Blueprint Reading				1	2	2	ARC	4200	Arch. Blueprint Reading				1	2	2			
						16	12	20							14	16	20							14	16	20			

THIRD QUARTER

ARC	3436	Architectural Drafting III	2	6	4
CIV	3506	Construction Materials/ Methods/Plain Concrete	3	6	5
CIV	3524	Strength of Materials	3	6	5
PHY	1405	Physics II: Elastic & Thermal Properties of Matter	<u>3</u>	<u>2</u>	<u>4</u>
			11	20	18

FOURTH QUARTER

ARC	4437	Architectural Drafting IV	2	6	4
CIV	4527	Steel and Timber Design	3	6	5
ARC	4300	Arch. Mech. Equipment	2	3	3
CIV	4300	Codes, Contracts, & Spec.	2	3	3
COM	3305	Communication II	<u>3</u>	<u>0</u>	<u>3</u>
			12	18	18

FIFTH QUARTER

ARC	4438	Architectural Drafting V	2	6	4
CIV	4534	Reinforced Concrete Design	3	6	5
PHY	1406	Physics III: Electricity and Magnetism	3	2	4
SPH	1300	Oral Communications	3	0	3
**		Technical Elective	<u>1</u>	<u>1</u>	<u>2</u>
			11	14	18

SIXTH QUARTER

ARC	4504	Architectural Drafting VI	3	6	5
CIV	4454	Construction Estimates & Cost	2	6	4
ARC	4302	Arch. Model Construction	1	6	3
COM	3306	Communications III	3	0	3
*		General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
			12	18	18

****SUGGESTED TECHNICAL ELECTIVES**

ARC	4310	Energy Efficient & Salar Home Design	ARC	3302	Home Construction Methods & Details
ARC	4345	Architectural Presentation Drawing I	ARC	3200	Introduction to Architecture
ARC	4346	Architectural Presentation Drawing II	ARC	3210	Design Your House Plans
ARC	3301	Build Your Home	EDP	3405	Microcomputer Programming — Basic

*General Education Electives must be chosen from the areas of Communications, Social Science, and/or Humanities (Art, Drama, Music, Literature, Language and Philosophy.)

***RECOMMENDED GENERAL EDUCATION ELECTIVES**

BUS	3300	Applied Psychology	ECO	2305	Economics II
SPH	2304	Public Speaking	BUS	1400	Introduction to Business
ECO	2304	Economics I	MGT	3303	Small Business Management

ASSOCIATE DEGREE NURSING

The course of study leading to an Associate Degree in Nursing prepares an individual to serve in general duty nursing positions in hospitals and comparable settings. Students are admitted to the Associate Degree Nursing Program in the Fall and Spring Quarters. Admission is based upon satisfactory scores on specific entrance tests, personal interviews, and evidence of good physical and mental health. Completion of a high school course in chemistry or its equivalent is required. Applicants must submit a completed high school transcript or other evidence of the attainment of the equivalency of a high school education.

DESCRIPTION OF CURRICULUM

The degree Associate in Applied Science in Nursing will be awarded upon successful completion of this curriculum and graduates will be eligible to take the State Board Examinations for licensure as Registered Nurses. The educational program consists of the study of nursing theory and practice interwoven with general education subjects such as the basic sciences, social sciences, and English. These classes meet on the College campus, and nurses are in classes with other College students. Nursing experiences with patients are planned in the up-to-date facilities of Charlotte Memorial Hospital and Medical Center and in other community health agencies. Clinical experiences are carefully selected for educational purposes and include the care of patients with medical, surgical and psychiatric problems, and the care of mothers, infants and children.

The Audio-Tutorial method is used for the instruction of nursing theory. This method allows students to learn each week's work at their own pace and at a time that is personally convenient. Individual learning takes place in the Health Audio-Tutorial Laboratory. Group and instructor interaction occur during general and small assembly sessions. Periodic testing of attainment of stated behavioral objectives is done, and the student is expected at the end of each quarter to have mastered satisfactorily the theory and clinical content of the particular course in which that student is enrolled.

Sequence of Required Courses For Associate Degree Nursing

			COURSE TITLE			HOURS/WEEK			QTR HRS
						CLS	LAB	CLN	CR
FIRST QUARTER									
NUR	3704	Fundamentals of Nursing I				3	4	6	7
BIO	1504	Anatomy & Physiology I				3	4	0	5
PSY	2504	General Psychology				5	0	0	5
						11	8	6	17
SECOND QUARTER									
NUR	3805	Fundamentals of Nursing II**				3	4	9	8
BIO	1505	Anatomy & Physiology II				3	4	0	5
NUR	3305	Nutrition for Nurses**				3	0	0	3
						9	8	9	16
THIRD QUARTER									
NUR	3904	Physical & Mental Health Nursing I				4	4	9	9
BIO	1503	Microbiology				3	4	0	5
PSY	2514	Abnormal Psychology*				5	0	0	5
						12	8	9	19

FOURTH QUARTER

NUR	3905	Physical & Mental Health Nursing II	3	4	12	9
SOC	2514	Introduction to Sociology	5	0	0	5
COM	1304	Introduction to Communication	3	0	0	3
			<u>11</u>	<u>4</u>	<u>12</u>	<u>17</u>

FIFTH QUARTER

NUR	4914	Maternal-Neonatal Nursing	3	4	12	9
COM	1305	English Composition II	3	0	0	3
		Elective***	3	0	0	3
			<u>9</u>	<u>4</u>	<u>12</u>	<u>5</u>

SIXTH QUARTER

NUR	4915	Nursing of Children	3	4	12	9
COM	1306	English Composition III	3	0	0	3
		Elective*	3	0	0	3
			<u>9</u>	<u>4</u>	<u>12</u>	<u>15</u>

SEVENTH QUARTER

NUR	4906	Physical & Mental Health Nursing III	3	4	12	9
NUR	4304	Trends in Nursing	2	2	0	3
			<u>5</u>	<u>6</u>	<u>12</u>	<u>12</u>

***Electives must be approved by Department Head.

One elective shall be from the areas of Sociology, Psychology, Anthropology, Economics, Political Sciences or History. All electives shall be from the College Transfer Offerings.

**NUR 3805 and NUR 3305 must be taken during the same quarter.

*PSY 2514 must be taken **after** entering the nursing program.

AUTOMOTIVE BODY REPAIR

The field of automotive body repair and painting requires a large number of well-trained people to meet the growing demand for the many skills needed in this area of employment. People with a background of knowledge and skill in this field have excellent opportunities for jobs with good salaries. Many of these people, after gaining additional experience, go on to open their own businesses or become auto body shop supervisors or managers.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College provides the opportunity for students to develop the skills necessary for them to be readily employable as auto body repair mechanics. The practical training is as similar to actual on-the-job work experiences as possible. The large shop and excellent equipment are ideal for preparation for entry into an occupation offering many job opportunities. A graduate from this curriculum will receive a diploma from the College.

Suggested Sequence of Required Courses for Automotive Body Repair

COURSE TITLE				QTR		COURSE TITLE				QTR			
				HRS/WK	HRS					HRS/WK	HRS		
				CLS	LAB	CR					CLS	LAB	CR
FIRST QUARTER						SECOND QUARTER							
AUB	5100	Seminar I		1	0	1	AUB	5101	Seminar II		1	0	1
AUB	5202	Auto Renewal		1	3	2	AUB	5233	Lacquer Painting		1	3	2
AUB	5223	Fiberglass & Metallic Fillers		1	3	2	AUB	5234	Enamel Painting		1	3	2
AUB	5224	Panel Installation		1	3	2	AUB	5235	Special Finishes		1	3	2
AJB	5421	Metal Finish & Plastic Fillers		2	6	4	AUB	5431	Paint Equipment & Preparation		2	6	4
MAT	5304	Shop Mathematics I		3	0	3	MGT	5200	Shop Management		2	0	2
WLD	5110	Basic Oxyacetylene Welding		0	3	1	HSA	5200	Human Relations		2	0	2
WLD	5120	Basic Arc Welding		0	3	<u>1</u>			Elective				<u>2</u>
						16							17
THIRD QUARTER						FOURTH QUARTER							
AUB	5102	Seminar III		1	0	1	AUB	5203	Estimating Auto Body Damage		2	0	2
AUB	5201	Trim and Glass		1	3	2	AUB	5344	Body Shop Applications I		0	9	3
AUB	5214	Door & Fender Alignment		1	3	2	AUB	5345	Body Shop Applications II		0	9	3
AUB	5412	Frame & Unitized Auto Body Alignment		2	6	4	AUB	5346	Body Shop Applications III		0	9	3
AUT	5201	Suspension Systems & Alignment		1	3	2			Elective				<u>2</u>
AUT	5254	Auto Air Conditioning		1	3	2							13
COM	5500	Communications Skills		5	0	5							
WLD	5140	Basic Gas-Metal Arc Welding		0	3	<u>1</u>							
						19							

NOTE: The student must furnish all required hand tools, textbooks, respirator, and all protective clothing.

RECOMMENDED ELECTIVES:

ART	1317	Furniture Restoration I	0	6	3	DSL	5300	Diesel Fundamentals	2	3	3
AUB	5347	Body Shop Applications IV	0	9	3	MAC	5201	Machine Shop Practices	1	3	2
AUT	5242	Basic Electrical Systems	1	3	2	MAT	5305	Shop Mathematics II	3	0	3
AUT	5404	Auto Chassis & Suspension Systems	2	6	4	PME	5211	Small Engine Repair I	1	3	2
BUS	1400	Introduction to Business	3	2	4	PSC	3303	Motor Vehicle Laws of N.C.	3	0	3
						RDN	9510	Reading Improvement	5	0	5

AUTOMOTIVE MECHANICS

Modern automobiles are manufactured in a great variety of types and sizes. These vehicles are complicated machines requiring highly skilled, well-trained personnel to properly repair and maintain them for operation at peak efficiency. Wages are good and opportunities are excellent for the person who is anxious to learn and willing to work as an auto mechanic.

DESCRIPTION OF THE CURRICULUM

The curriculum at Central Piedmont Community College is designed to provide a comprehensive study of basic fundamentals and operating functions of the complete automobile through classroom exercises, with disassembly, inspection, repair, replacement, and reassembly procedures given through practical "hands-on" type of instruction in the laboratories. The program includes instruction in tune-up, overhaul, and replacement of parts of gasoline engines; trouble shooting and repair of electrical equipment; overhaul and replacement of parts in conventional and automatic transmissions; repair of rear axles and drivelines; and repair of air conditioning systems. The program also includes selected related courses that will better enable the student to understand the applied physics of the automobile, the communications (speaking and writing) of automobile terms, and the business area of the automobile industry. Upon satisfactory completion of these courses, the student will receive a certificate or diploma as indicated below.

Suggested Sequence of Required Courses for Automotive Mechanics

COURSE TITLE					COURSE TITLE						
FIRST QUARTER					SECOND QUARTER						
AUT	5405	Fuel Systems	2	6	4	AUT	5254	Auto Air Conditioning	1	3	2
AUT	5415	Electrical Systems I	2	6	4	AUT	5402	Internal Combustion			
AUT	5401	Internal Combustion						Engines II	2	6	4
		Engines I	2	6	4	AUT	5416	Electrical Systems II	2	6	4
MAT	5304	Shop Mathematics I	3	0	3	AUT	5425	Automotive Power Train			
PHY	5304	Shop Science I	2	2	3			Systems I	2	6	4
		Elective			3	PHY	5305	Shop Science II	2	2	3
					21						17
THIRD QUARTER											
AUT	5113	Orientation to Co-op	1	0	1	At the end of three quarters of successful study, the student may receive a Certificate of Accomplishment. To the extent that cooperative education positions are available, the student may proceed through the fourth quarter, complete the program, and receive a diploma.					
AUT	5404	Auto Chassis & Suspension Systems	2	6	4						
AUT	5426	Auto Power Train Systems II	2	6	4						
MGT	5200	Shop Management	2	0	2						
MAC	5201	Machine Shop Practices	1	3	2	SUGGESTED ELECTIVES					
WLD	5110	Basic Oxyacetylene Welding	0	3	1						
		Elective			3						
					17						
FOURTH QUARTER											
AUT	5295	Auto Mechanics Co-op	0	20	2	AUT	5420	Foreign Car Engines	2	6	*4
COM	5500	Communications Skills	5	0	5	DSL	5300	Diesel Fundamentals	2	3	3
HSA	5200	Human Relations	2	0	2	DSL	5304	Hydraulics & Pneumatics	2	2	3
		Elective			3	MAT	5305	Shop Mathematics II	3	0	3
					12	PME	5211	Small Engine Repair	1	3	2
						PME	5214	Small Engine Overhaul	1	3	2
						WLD	5120	Basic Electric Arc Welding	0	3	1
						WLD	5140	Basic Gas-Metal Arc Welding	0	3	1
						*May be substituted for AUT 5402.					

BOOKKEEPING/CLERICAL

The purposes of the Bookkeeping/Clerical curriculum are to prepare the individual for occupations which require skills in both bookkeeping and clerical; to provide an educational program for individuals wanting training to work in small businesses and other areas where a diversification of skills is needed, but not to the concentrated extent available in specialty programs such as accounting; and to provide opportunities for individuals wanting to fulfill professional or general interests and those individuals interested in upgrading or retraining.

DESCRIPTION OF CURRICULUM

The Bookkeeping/Clerical curriculum is designed to provide individuals with the knowledge to obtain entry level employment in positions requiring both accounting and secretarial training. The student will learn to perform such duties in accounting as maintaining journals and ledgers, preparing financial statements, preparing tax forms for small businesses and preparing cost data. In the secretarial area, the student will learn typing skills, records management skills, office machine skills and other secretarial responsibilities. The Associate in Applied Science Degree will be awarded upon successful completion of this curriculum.

Suggested Sequence of Required Courses for Bookkeeping/Clerical

COURSE TITLE				HRS/WK		QTR		COURSE TITLE				HRS/WK		QTR	
				CLS	LAB	CR						CLS	LAB	CR	
FIRST QUARTER								SECOND QUARTER							
SEC	3404	Typing I		3	2	4		SEC	3405	Typing I		3	2	4	
ACC	1604	Principles of Accounting I		5	2	6		ACC	1605	Principles of Accounting II		5	2	6	
COM	1304	Introduction to Communication		3	0	3		COM	1305	Communication II**		3	0	3	
FIN	3314	Business Mathematics I*		3	0	3		FIN	3315	Business Mathematics II*		3	0	3	
				14	4	16						14	4	16	
THIRD QUARTER								FOURTH QUARTER							
SEC	3406	Typing III		3	2	4		ACC	2627	Intermediate Accounting II		5	2	6	
ACC	2626	Intermediate Accounting I		5	2	6		SEC	3304	Office Machines		2	2	3	
SEC	4370	Records Management		3	0	3		SEC	4407	Typing IV		3	2	4	
COM	3306	Communications III**		3	0	3		BUS	3300	Applied Psychology		3	0	3	
				14	4	16						13	6	16	
FIFTH QUARTER								SIXTH QUARTER							
ACC	3500	Small Business Accounting		5	0	5		SEC	4617	General Office Procedures		5	2	6	
BUS	2304	Business Law I		3	0	3		BUS	2305	Business Law II		3	0	3	
FIN	4334	Business Finance I		3	0	3		FIN	4335	Business Finance II		3	0	3	
EDP	3405	Micracomputer Programming (Basic)		3	2	4		SPH	1300	Oral Communications Electives		3	0	3	
ECO	2304	Economics I		3	0	3						3	0	3	
				17	2	18						17	2	18	

BANKING AND FINANCE

Suggested Sequence of Required Courses for Business Administration-Banking & Finance

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS/WK	HRS						HRS/WK	HRS	
FIRST QUARTER				CLS	LAB	CR	SECOND QUARTER				CLS	LAB	CR
COM	1304	Introduction to Communication		3	0	3	COM	3305	Communications II**		3	0	3
BUS	1400	Introduction to Business		3	2	4	ACC	1604	Principles of Accounting I		5	2	6
BUS	3300	Applied Psychology		3	0	3	ECO	2304	Economics I (Macro)		3	0	3
FIN	3314	Business Math I*		3	0	3	SPH	1300	Oral Communications		3	0	3
BAF	3400	Principles of Bank Operations		3	2	4	MGT	2314	Principles of Management		3	0	3
				15	4	17					17	2	18
THIRD QUARTER							FOURTH QUARTER						
COM	3306	Communications III		3	0	3	BUS	2304	Business Law I		3	0	3
ACC	1605	Principles of Accounting II		5	2	6	EDP	3300	Intro. to Computer Concept.		3	0	3
BUS	3343	Money and Banking		3	0	3	CFM	4340	Consumer Credit		3	0	3
ECO	2305	Economics II (Micro)		3	0	3	MGT	4332	Personnel Management I		3	0	3
		Elective****		3	0	3	BAF	3401	Bank Management		3	2	4
				17	2	18					15	2	16
FIFTH QUARTER							SIXTH QUARTER						
BUS	2305	Business Law II		3	0	3	FIN	4336	Financial Management		3	0	3
CFM	4341	Commercial Credit		3	0	3	BAF	4402	Federal Reserve System		3	2	4
BAF	4400	Loan Credit Analysis		3	2	4	BAF	4403	International Banking****		3	2	4
BAF	4401	Management of Commercial Bank Funds		3	2	4			Elective***		3	0	3
		Elective***		3	0	3			Elective***		3	0	3
				15	4	17					15	4	17

*MAT 1504, 1505, or MAT 1514, 1515 may be substituted if college transfer is planned.

**COM 1305 and 1306 may be substituted if college transfer is planned.

***Electives as desired.

****Student may take Home Mortgage or Trust Functions & Services (AIB Course) in lieu of BAF 4403 International Banking.

BUSINESS MANAGEMENT

Suggested Sequence of Required Courses for Business Administration-Business Management

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS/WK	HRS						HRS/WK	HRS	
FIRST QUARTER				CLS	LAB	CR	SECOND QUARTER				CLS	LAB	CR
BUS	1400	Introduction to Business		3	2	4	ACC	1604	Principals of Accounting I		5	2	6
COM	1304	Intro. to Communication		3	0	3	ECO	2305	Economics II (MICRO)		3	0	3
FIN	3314	Business Math I*		3	0	3	COM	3305	Communications II**		3	0	3
ECO	2304	Economics I (MACRO)		3	0	3	FIN	3315	Business Math II*		3	0	3
EDP	3300	Intro. to Computer Concepts		3	0	3					14	2	15
				15	2	16							
THIRD QUARTER							FOURTH QUARTER						
ACC	1605	Principles of Accounting II		5	2	6	MGT	4330	Supervision		3	0	3
ECO	2306	Economics III		3	0	3	BUS	2305	Business Law II		3	0	3
COM	3306	Communications III		3	0	3	MKT	3324	Marketing		3	0	3
BUS	2304	Business Law I		3	0	3	FIN	4334	Finance I		3	0	3
MGT	2314	Principles of Management		3	0	3	MGT	3303	Small Business Management		3	0	3
				17	2	18	BUS	3304	Business Statistics		3	0	3
											18	0	18
FIFTH QUARTER							SIXTH QUARTER						
MGT	4333	Production, Planning & Control		3	0	3	BUS	3300	Applied Psychology		3	0	3
BUS	2306	Business Law III		3	0	3	MGT	4334	Management Seminar		3	0	3
MGT	4331	Administrative Office Management		3	0	3	MGT	4337	Personnel Management II		3	0	3
CFM	4340	Consumer Credit OR					SPH	1300	Oral Communications		3	0	3
CFM	4341	Commercial Credit		3	0	3			Elective***		3	0	3
MGT	4332	Personnel Management I		3	0	3					15	0	15
		Elective***		3	0	3							
				18	0	18							

*MAT 1504, 1505 or MAT 1514, 1515 may be taken if student has met requirements.

**COM 1305 and 1306 may be taken if student has met requirements.

***SEC 3404 Typing I is required of students who have not had one year of typing in high school. Other suggested electives include BUS 4303, MKT 4306, MKT 4322, EDP 4314, ECO 3301, ECO 3302, FIN 4335, INS 3340.

CREDIT AND FINANCIAL MANAGEMENT

Suggested Sequence of Required Courses For Business Administration-Credit and Financial Management

COURSE TITLE				HRS/WK		QTR		COURSE TITLE				HRS/WK		QTR	
				CLS	LAB	CR						CLS	LAB	CR	
FIRST QUARTER															
BUS	1400	Introduction to Business		3	2	4		CFM	4341	Commercial Credit*		3	0	3	
INS	3340	Principles of Risk & Insurance		3	0	3		ECO	2305	Economics II (MICRO)		3	0	3	
ECO	2304	Economics I (MACRO)		3	0	3		FIN	3315	Business Mathematics II***		3	0	3	
COM	1304	Intro. to Communication		3	0	3		COM	3305	Communications II		3	0	3	
FIN	3314	Business Mathematics I***		3	0	3				Elective		3	0	3	
				15	2	16						15	0	15	
THIRD QUARTER															
BUS	3343	Money & Banking**		3	0	3		ACC	1605	Principles of Accounting II*		5	2	6	
ACC	1604	Principles of Accounting I*		5	2	6		BUS	2304	Business Law I**		3	0	3	
SEC	4305	Bus. Communications*		3	0	3		MKT	3324	Marketing**		3	0	3	
MGT	2314	Prin. of Management**		3	0	3		MGT	4331	Administrative Office Management***		3	0	3	
				14	2	15		FIN	4317	Financial Statement Analysis		3	0	3	
												17	2	18	
FIFTH QUARTER															
CFM	4344	Credit Mgmt. Problems**		3	0	3		ECO	2306	Economics III		3	0	3	
SPH	2304	Public Speaking**		3	0	3		FIN	4334	Business Finance I		3	0	3	
BUS	2306	Business Law III***		3	0	3		MGT	4332	Personnel Management I		3	0	3	
BUS	3300	Applied Psychology**		3	0	3				Electives		9	0	9	
EDP	2306	Computer Programming I (Business)**		2	2	3						18	0	18	
				14	2	15									
FOURTH QUARTER															
SIXTH QUARTER															

*Courses so marked are required for the Associate Award of the National Institute of Credit.

**Courses so marked are required in addition to those marked * for the Fellow Award of the National Institute of Credit.

***If student passes proficiency examination, the student may take on elective.

MARKETING & DISTRIBUTION

Suggested Sequence of Required Courses for Business Administration-Marketing and Distribution

FIRST QUARTER							SECOND QUARTER						
COURSE TITLE			HRS/WK	QTR			COURSE TITLE			HRS/WK	QTR		
	CLS	LAB	CR					CLS	LAB	CR			
BUS 1400	Introduction to Business	3	2	4		BUS 2304	Business Low I	3	0	3			
COM 1304	Introduction to Communication	3	0	3		COM 3305	Communicotions II**	3	0	3			
FIN 3314	Business Math I*	3	0	3		ECO 2304	Economics I (MACRO)	3	0	3			
BUS 3300	Applied Psychology	3	0	3		MKT 3324	Marketing	3	0	3			
SPH 1300	Oral Cammunications	3	0	3		FIN 3315	Business Mothematics II*	3	0	3			
		15	2	16			Elective***	3	0	3			
								18	0	18			
THIRD QUARTER							FOURTH QUARTER						
BUS 2305	Business Low II	3	0	3		BUS 3304	Business Statistics	3	0	3			
ECO 2305	Economics II (MICRO)	3	0	3		MKT 4320	Retailing	3	0	3			
MKT 3320	Fundamentols of Selling	3	0	3		EDP 3300	Introduction to Computer Concepts	3	0	3			
MKT 4322	Purchasing	3	0	3		MKT 4325	Sales Monagement	3	0	3			
ACC 1604	Principles of Accounting I	5	2	6		ACC 1605	Principles of Accounting II	5	2	6			
		17	2	18				17	2	18			
FIFTH QUARTER							SIXTH QUARTER						
MKT 4321	Advertising	3	0	3		COM 3306	Communicotions III**	3	0	3			
MGT 2314	Principles of Monagement	3	0	3		MKT 4324	Marketing Seminar	3	0	3			
CFM 4340	Consumer Credit	3	0	3		CFM 4341	Commercial Credit	3	0	3			
MKT 4304	Wholesale/Manufacturing Distribution	3	0	3		INS 3340	Principles of Risk and Insurance	3	0	3			
	Elective	3	0	3		EDP 3404	Microcomputer Progromming — Botic	3	2	4			
		15	0	15				15	2	16			

*MAT 1504, 1505 or MAT 1514, 1515 may be taken if student has met requirements.

**COM 1305 and 1306 may be taken if student has met requirements.

***SEC 3404 Typing I is required of students who have not had one year of typing in high school or equivalent.

MGT 3303 Small Business Management is suggested as an elective.

POSTAL SERVICE MANAGEMENT

Suggested Sequence of Required Courses For Business Administration-Postal Service Management

COURSE TITLE						QTR			COURSE TITLE						QTR		
						HRS/WK									HRS/WK		
						CLS	LAB	CR							CLS	LAB	CR
FIRST QUARTER																	
COM	1304	Intro. to Communication				3	0	3	COM	3305	Communications II				3	0	3
ECO	3302	Labor Economics				3	0	3	ACC	1604	Principles of Accounting I				5	2	6
PSM	3300	Postal Service History & Organization				3	0	3	PSM	3401	Postal Service Labor Management				3	2	4
RDN	9510	Reading Improvement*				5	0	5	HED	1204	First-Aid I				1	2	2
FIN	3314	Business Mathematics I				3	0	3	PSM	4420	Postal Employee Services				3	2	4
						17	0	17							15	8	19
THIRD QUARTER																	
COM	3306	Communications III				3	0	3	SPH	1300	Oral Communications				3	0	3
BUS	1400	Introduction to Business				3	2	4	ECO	2304	Economics I (MACRO)				3	0	3
ACC	1605	Principles of Accounting II				5	2	6	PSM	3405	Mail Processing II				3	2	4
PSM	3404	Mail Processing I				3	2	4	PSM	4401	Postal Service Support				3	2	4
						14	6	17	MGT	2314	Principles of Management				3	0	3
															15	4	17
FIFTH QUARTER																	
PSM	4421	Postal Customer Services				3	2	4	EDP	3300	Introduction to Computer Concepts				3	0	3
PSM	4430	Postal Delivery & Collection				3	2	4	PSM	4431	Postal Problems Analysis				3	2	4
MGT	4330	Supervision				3	0	3	SOC	4300	Social & Minority Issues				3	0	3
SOC	1301	Group Interaction Elective**				3	0	3	ACC	4434	Income Taxes Individual				3	2	4
						15	4	17	BUS	3300	Applied Psychology				3	0	3
															15	4	17

*If needed

**SEC 3404 Typing I is required of students who have not had one year of typing in high school or equivalent.

REAL ESTATE

Suggested Sequence of Required Courses For Business Administration-Real Estate

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK						HRS/WK		
			CLS	LAB	CR				CLS	LAB	CR
FIRST QUARTER											
BUS	1400	Introduction to Business	3	2	4	COM	3305	Communications II**	3	0	3
COM	1304	Intro. to Communication	3	0	3	ECO	2304	Economics I (MACRO)	3	0	3
RES	3464	Real Estate Broker Licensing I	4	0	4	RES	3465	Real Estate Broker Licensing II	4	0	4
FIN	3314	Business Mathematics I	3	0	3	ACC	1604	Principles of Accounting I	5	2	6
SPH	1300	Oral Communications	3	0	3				15	2	16
			16	2	17						
THIRD QUARTER											
COM	3306	Communications III	3	0	3	BUS	2305	Business Law II	3	0	3
BUS	2304	Business Law I	3	0	3	RES	3365	Residential Real Estate Appraisal II	3	0	3
ECO	2305	Economics II (MICRO)	3	0	3	BUS	3300	Applied Psychology	3	0	3
RES	3360	Real Estate Property Management	3	0	3	RES	4365	Real Estate Marketing	3	0	3
RES	3364	Residential Real Estate Appraisal I	3	0	3	RES	4364	Land Use Planning & Zoning Elective****	3	0	3
			15	0	15				18	0	18
FIFTH QUARTER											
MGT	2314	Principles of Management	3	0	3	MGT	4331	Administrative Office Management	3	0	3
RES	4367	Income R.E. Appraisal I	3	0	3	RES	4376	Real Estate Law Electives	3	0	3
RES	4366	Real Estate Finance	3	0	3				9	0	9
EDP	3300	Introduction to Computer Concepts Elective	3	0	3				15	0	15
			3	0	3						
			15	0	15						
SUGGESTED ELECTIVES											
ECO	2306	Economics III	3	0	3	RES	4374	Real Estate Investment	3	0	3
RES	4375	Industrial Real Estate	3	0	3	FIN	3330	Real Estate Arithmetic	3	0	3
MKT	4321	Advertising	3	0	3	RES	4368	Income R.E. Appraisal II	3	0	3

*MAT 1504, 1505 or MAT 1514, 1515 may be taken if student has met requirements.

**COM 1305 and 1306 may be taken if student has met requirements.

***Students desiring college transfer credit may take the ECO 2304, 2305, 2306 series starting in the second quarter.

****SEC 3404 Typing I is required of students who have not had one year of typing in high school or equivalent.

TRANSPORTATION MANAGEMENT

Suggested Sequence of Required Courses For Business Administration-Transportation Management

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS/WK	CLS	HRS					HRS/WK	CLS	HRS
FIRST QUARTER							SECOND QUARTER						
BUS	1400	Introduction to Business		3	2	4	COM	3305	Communications II**		3	0	3
COM	1304	Intra. to Communication		3	0	3	ECO	3301	American Economic History***		3	0	3
FIN	3314	Business Math I*		3	0	3	FIN	3315	Business Mathematics II*		3	0	3
TRN	3303	Economics of Transportation		3	0	3	TRN	3450	Motor Carrier Rates		3	2	4
TRN	3350	Highway Transportation		3	0	3	TRN	4354	Transportation Law I		3	0	3
				15	2	16					15	2	16
THIRD QUARTER							FOURTH QUARTER						
ACC	1604	Principles of Accounting I		5	2	6	ACC	1605	Principles of Accounting II		5	2	6
COM	3306	Communications III**		3	0	3	ECO	2304	Economics I (MACRO)***		3	0	3
TRN	3451	Traffic Management		3	2	4	TRN	4350	Railroad Transportation		3	0	3
TRN	4355	Transportation Law II		3	0	3	SPH	1300	Oral Communications		3	0	3
				14	4	16	BUS	2304	Business Law I		3	0	3
											17	2	18
FIFTH QUARTER							SIXTH QUARTER						
BUS	3300	Applied Psychology		3	0	3	EDP	2306	Computer Program I (Bus.)		2	2	3
EDP	3300	Intra. to Computer Concepts		3	0	3	TRN	4356	Highway Transportation Management		3	0	3
BUS	3304	Business Statistics		3	0	3	MGT	2314	Principles of Management		3	0	3
EDP	4314	Systems & Procedures		3	0	3	ECO	3302	Labor Economics		3	0	3
TRN	4351	Traffic Claims		3	0	3			Elective****		3	0	3
BUS	2305	Business Law II		3	0	3					14	2	15
				18	0	18							

*MAT 1504, 1505 or MAT 1514, 1515 may be taken if student has met requirements.

**COM 1305 and 1306 may be taken if student has met requirements.

***Students desiring college transfer credit may take the ECO 2304, 2305, 2306 series starting in the second quarter.

****SEC 3404 Typing I is required of students who have not had one year of typing in high school or equivalent.

BUSINESS DATA PROCESSING

The Computer Science Department offers the degree Associate in Applied Science in Business Data Processing. The Business Data Processing curriculum prepares a graduate to seek work on an entry level basis as a business application programmer or programmer/analyst.

DESCRIPTION OF CURRICULUM

A graduate of the Business Data Processing curriculum will have completed a series of courses in computer concepts, data processing fundamentals, programming, software control systems, electronic data processing applications, fundamentals of systems analysis and design, accounting, English and mathematics. When these courses are linked with several years of experience as a business application programmer after graduation, career paths in business programming, systems analyst, and management could be available for a graduate of this program. It's possible that initial employment could involve systems analysis and design as a part of the programmer's responsibilities.

Suggested Course Sequence For Business Data Processing

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS/WK	CLS	HRS					HRS/WK	CLS	HRS
FIRST QUARTER							SECOND QUARTER						
EDP	3300	Intra. to Computer Concepts		3	0	3	EDP	3415	Computer Language II-COBOL		3	2	4
EDP	3414	Computer Language I-COBOL		3	2	4	MAT	3505	Technical Mathematics II		5	0	5
MAT	3504	Technical Mathematics I		5	0	5	COM	3305	Communications II		3	0	3
COM	1304	Intra. to Communication		3	0	3	EDP	4425	Computer Systems I		3	2	4
ECO	2304	Economics I		3	0	3					14	4	16
				17	2	18							
THIRD QUARTER							FOURTH QUARTER						
EDP	4435	Computer Systems II		3	2	4	EDP	4416	Programming Techniques & Aids		3	2	4
EDP	3440	Assembly Language		3	2	4	EDP	4445	Advanced RPG II		3	2	4
EDP	4444	RPG II Programming		3	2	4	ACC	1605	Principles of Accounting II		5	2	6
ACC	1604	Principles of Accounting I		5	2	6	BUS	3304	Business Statistics		3	0	3
				14	8	18					14	6	17

FIFTH QUARTER

EDP 4417	Data Processing Application I	3	2	4
EDP 4314	Systems and Procedures	3	0	3
COM 3306	Communications III	3	0	3
ACC/BUS	Electives	6	0	6
Social Science/Humanities	Electives	3	0	3
		18	2	19

SIXTH QUARTER

EDP 4418	Data Processing Application II	3	2	4
EDP 4315	Applied Business Systems	3	0	3
SPH 1300	Oral Communications	3	0	3
ACC/BUS	Electives	3	0	3
		6	0	6
		18	2	19

SPECIAL SERVICE PACKAGES**FORTRAN PROGRAMMING**

EDP 1404	Computer Concepts and FORTRAN Prog. I
EDP 1405	FORTRAN Programming II

RPG II PROGRAMMING

EDP 4444	RPG II Programming
EDP 4445	Advanced RPG II Programming

COMPUTER SCIENCE EMPHASIS FOR COLLEGE TRANSFER

EDP 1404	Computer Concepts & FORTRAN Prog. I
EDP 1405	FORTRAN Programming II
EDP 2308	Computer Systems and Assembly Lang. I
EDP 2309	Computer Systems and Assembly Lang. II
EDP 2514	Statistical and Numerical Programming

GENERAL INTEREST

EDP 3300	Introduction to Computer Concepts
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MICROCOMPUTER PROGRAMMING

EDP 3405	Microcomputer Programming-BASIC
EDP 3406	Programming Business Applications for Micromcomputers

COBOL PROGRAMMING

EDP 3414	Computer Language I-COBOL
EDP 3415	Computer Language II-COBOL

OS AND JCL

EDP 4425	Computer Systems I
EDP 4435	Computer Systems II

ASSEMBLY LANGUAGE FOR LARGE COMPUTERS

EDP 3440	Assembly Language
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CIVIL ENGINEERING TECHNOLOGY

The construction industry is large and varied and provides excellent opportunities for the individual with ability and training. Depending on the organization and the size of the project, it is possible that the technician may work directly with engineers or architects or may function as a liaison between them.

Civil engineering technicians perform many necessary planning and supervisory tasks. An individual after graduating from this program should qualify for such jobs as instrument person, survey party chief, drafter, supervisor, expeditor, surveyor, layout person, engineer aide, inspector, construction equipment and material sales person. Upon gaining sufficient construction experience, the graduate has the opportunity to advance into positions such as field engineer, estimator, job superintendent, project manager or contractor.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College includes both classroom and laboratory experiences with practical application to the industry. Well-qualified instructors and excellent equipment provide the students an opportunity to secure the education they need for the many excellent positions available in this field. The degree of Associate in Applied Science in Civil Engineering Technology is awarded upon completion of the program.

Suggested Sequence of Required Courses for Civil Engineering Technology

				QTR								QTR			
COURSE TITLE				HRS/WK				COURSE TITLE				HRS/WK			
				CLS	LAB	HRS	CR					CLS	LAB	HRS	CR
FIRST QUARTER								SECOND QUARTER							
CIV 3504	Surveying I			3	6	5		CIV 3514	Statics			3	6	5	
ARC 3434	Architectural Drafting I			2	6	4		ARC 3435	Architectural Drafting II			2	6	4	
MAT 3504	Technical Mathematics I			5	0	5		PHY 1404	Physics I: Basic Mechanics			3	2	4	
COM 1304	Intro. to Communication			3	0	3		MAT 3505	Technical Mathematics II			5	0	5	
	* General Education Elective			3	0	3		ARC 4200	Arch. Blueprint Reading			1	2	2	
				16	12	20						14	16	20	
THIRD QUARTER								FOURTH QUARTER							
CIV 3505	Surveying II			3	6	5		CIV 4506	Surveying III			3	6	5	
CIV 3506	Construction Materials/Methods/Plain Concrete			3	6	5		CIV 4527	Steel and Timber Design			3	6	5	
CIV 3524	Strength of Materials			3	6	5		ARC 4300	Architectural Mechanical Equipment			2	3	3	
PHY 1405	Physics II: Elastic and Thermal Prop. of Matter			3	2	4		CIV 4300	Codes, Contracts & Specs.			2	3	3	
				12	20	19		COM 3305	Communication II			3	0	3	
												13	18	19	
FIFTH QUARTER								SIXTH QUARTER							
CIV 4304	Construction Planning (CPM)			2	3	3		CIV 4424	Foundation Construction			2	6	4	
CIV 4534	Reinforced Concrete Design			3	6	5		CIV 4444	Construction of Roads & Pavements			3	3	4	
PHY 1406	Physics III: Electricity and Magnetism			3	2	4		CIV 4454	Construction Estimates & Cost			2	6	4	
SPH 1300	Oral Communications			3	0	3		CIV 4404	Structural Drafting & Design			2	6	4	
	* General Education Elective			3	0	3		COM 3306	Communications III			3	0	3	
	** Technical Elective					2						12	21	19	
				14	11	20									

**Suggested Technical Electives

ARC	4310	Energy Efficient & Solar Home Design	ARC	3210	Design Your House Plans
ARC	3301	Build Your Home	EDP	3405	Microcomputer Programming — Basic
ARC	3302	Home Construction Methods & Details			

*General Education Electives must be chosen from the areas of Communications, Social Science, and/or (Art, Drama, Music, Literature, Language and Philosophy).

Recommended General Education Electives:

BUS	3300	Applied Psychology	ECO	2305	Economics II
SPH	2304	Public Speaking	BUS	1400	Introduction to Business
ECO	2304	Economics I	MGT	3303	Small Business Management

COMMERCIAL ART

- ADVERTISING DESIGN OPTION
- INTERIOR DESIGN OPTION
- TELEVISION AND VISUAL GRAPHICS OPTION

Most of the artwork which surrounds us is the work of specialists most often referred to as "commercial artists." These artists may work in the art department of some commercial enterprise, a studio or agency which does work for a variety of businesses or individuals or they may choose to "free-lance" or perform their services for their clients on a self-determined contract and schedule. The Art Department offers courses to prepare commercial artists for careers in the areas of Advertising Design, Television/Visual Graphics, and Interior Design.

DESCRIPTION OF CURRICULUM

Using a variety of teaching-learning techniques, the Commercial Art Program at Central Piedmont Community College equips students with the knowledge and skills necessary for employment as Commercial Artists. The curriculum is organized so that entering students spend their first three quarters in a foundation program which emphasizes basics (such as drawing and design) common to all the options of the Program. Following successful completion of the foundation courses, the student selects one of three options for specialization during the remaining three quarters. The Advertising Design Option emphasizes two-dimensional artwork for reproduction by various printing techniques in magazines, newspapers, brochures, etc. The Television/Visual Graphics Option emphasizes the origination of artwork for reproduction by video or photographic process. This art work is used in service training programs, educational modules, sales presentation, etc. The Interior Design Option emphasizes the development, selection, and arrangement of elements for the interior of both homes and commercial buildings.

COMMERCIAL ART FOUNDATION PROGRAM

Suggested Sequence of Required Courses for Commercial Art Foundation Program

COURSE TITLE				HRS/WK		QTR		COURSE TITLE				HRS/WK		QTR	
FIRST QUARTER				CLS	LAB	HRS	CR	SECOND QUARTER				CLS	LAB	HRS	CR
ART	1300	Introduction to Art I		3	0	3		ART	1301	Introduction to Art II		3	0	3	
VCO	3314	Drawing I		2	2	3		VCO	3315	Drawing II		2	2	3	
VCO	3324	Visual Design I		2	2	3		VCO	3325	Visual Design II		2	2	3	
VCO	4100	Seminar I		1	0	1		VCO	3304	Photography I		2	2	3	
FIN	3314	Business Mathematics I		3	0	3		DFT	3404	Technical Drafting I*		2	6	4	
COM	1304	Intro. to Communications		3	0	3		VCO	4101	Seminar II		1	0	1	
				14	4	16		COM	3305	Communications II		3	0	3	
												15	12	20	
THIRD QUARTER															
VCO	3305	Photography II		2	2	3									
VCO	3326	Visual Design III		2	2	3									
VCO	3316	Drawing III		2	2	3									
ADV	4300	Advertising Principles**		3	0	3									
MKT	3320	Fundamentals of Selling		3	0	3									
		General Elective		3	0	3									
				15	6	18									

SIXTH QUARTER

VCO	4325	Copywriting II	3	0	3
ADV	4306	Advertising Studio III	2	2	3
VCO	4416	Advertising Production III	3	2	4
ADV	4204	Advertising Thesis	0	4	2
ADV	4214	Professional Practices & Procedures	1	2	2
PRN	5364	Fundamentals of Offset Printing	1	4	3
			10	14	17

INTERIOR DESIGN OPTION**FOURTH QUARTER**

EDN	4300	Survey of Interior Design	3	0	3
ARC	3304	Drafting for Interior Design II	1	6	3
EDN	4414	Applied Problems Studio I	2	4	4
EDN	4404	Interior Presentations	2	4	4
EDN	4314	Survey of Painting, Sculpture & Interior Design I	3	0	3
			11	14	17

FIFTH QUARTER

ARC	3200	Introduction to Architecture	2	0	2
EDN	4315	Survey of Painting, Sculpture & Interior Design II	3	0	3
EDN	4415	Applied Problems Studio II	2	4	4
EDN	4307	Survey of Materials	1	4	3
EDN	4203	Period Furn. & Furnishings	2	0	2
			10	8	14

SIXTH QUARTER

EDN	4406	Contemporary Interiors	2	4	4
EDN	4400	Professional Practices & Procedures	2	4	4
EDN	4416	Applied Problems Studio III	2	4	4
EDN	4202	Thesis	0	4	2
		General Elective	3	0	3
			9	16	17

TELEVISION AND VISUAL GRAPHICS OPTION**FOURTH QUARTER**

VCO	4304	Typography and Lettering I	2	2	3
VCO	3306	Photography III	2	2	3
TAV	4314	Visual Graphics Studio I	2	2	3
VCO	4414	Advertising Production I	3	2	4
TAV	4214	Visual Projection I	1	2	2
		General Elective	3	0	3
			13	10	18

FIFTH QUARTER

TAV	4204	Professional Practices & Procedures I	1	2	2
VCO	4324	Copywriting I	3	0	3
VCO	4305	Typography and Lettering II	2	2	3
TAV	4215	Visual Project II	1	2	2
TAV	4315	Visual Graphics Studio II	2	2	3
TAV	4300	Photography IV	2	2	3
VCO	3301	Illustration	2	2	3
			13	12	19

SIXTH QUARTER

VCO	4325	Copywriting II	3	0	3
TAV	4316	Visual Graphics Studio III	2	2	3
TAV	4224	T.V. & Visual Graphics Thesis	1	2	2
TAV	4216	Visual Project III	1	2	2
TAV	4205	Professional Practices & Procedures II	1	2	2
		General Elective	3	0	3
			11	8	15

COMPUTER OPERATIONS

The increasing sophistication and expansion of data processing equipment throughout business and industry has created a need for skilled operators. The operator is responsible for the operation of computer and auxiliary machinery whose expense necessitates efficient utilization. The operator must be knowledgeable enough about the data processing equipment being used in order to efficiently monitor and control the equipment according to prescribed operating instructions and detect malfunctions as they occur.

DESCRIPTION OF CURRICULUM

The data processing equipment operator program of Central Piedmont Community College will provide the student with the knowledge to seek employment in Computer Operations and other auxiliary or peripheral equipment operation. The knowledge gained by the student falls into three categories: the operational details of the central processing unit and peripheral equipment; the ability to recognize the nature of the job being run and its processing requirements; and a knowledge of computer manufacturer supplied programs such as utility programs and control programs. A graduate from this curriculum will receive a diploma from the College.

All developmental classes should be completed before entering the curriculum of Computer Operations.

All pre-requisites and co-requisites must be met before enrolling in a particular class.

Suggested Course Sequence For Computer Operations

COURSE TITLE			HRS/WK		QTR	COURSE TITLE			HRS/WK		QTR
			CLS	LAB	HRS				CLS	LAB	HRS
FIRST QUARTER						SECOND QUARTER					
EDP	3300	Intro. to Computer Concepts	3	0	3	EDP	5424	Programing I-Operators	3	2	4
COM	1304	Intro. to Communication	3	0	3	EDP	5614	Computer Operations II	5	2	6
FIN	3314	Business Mothemetotics I	3	0	3	COM	3305	Communications II	3	0	3
EDP	5613	Computer Operations I	5	2	6	BUS	1400	Introduction to Business	3	2	4
			14	2	15				14	6	17
THIRD QUARTER						FOURTH QUARTER					
EDP	5425	Programming II-Operators	3	2	4	EDP	5616	Computer Operations IV	5	2	6
EDP	5615	Computer Operations III	5	2	6	SPH	1300	Oral Communications	3	0	3
EDP	5524	General Doto Processing Applications	4	2	5			General Elective	3	0	3
COM	3306	Communications III	3	0	3	SEC	3304	Office Mochines	2	2	3
			15	6	18				13	4	15

SEC 3404 required only for Students that have not had a typing course.

EDP 5390 Individual Study is a computer operations elective.

CONTINUING EDUCATION PROGRAMS

The Continuing Education Program of Central Piedmont Community College provides adult education and extension courses for those individuals whose education stopped short of high school graduation, for those who wish instruction in home and family education and leisure activities and for those who need short-term training, retraining or upgrading in a vocational or professional area.

College credit is not given for completion of courses in the Continuing Education Program; however, a certificate is awarded by the College in some cases. Licenses, diplomas or other forms of recognition are awarded by certain non-College agencies upon successful completion of designated course sequences.

Basic adult, high school completion, and personal and family improvement courses require a registration fee of five dollars. Vocational/recreational courses require a charge of eighty-five cents per contact hour. Fee for vocational/recreational courses are non-refundable, unless the class is cancelled.

Admission requirements for courses in the Continuing Education Program depend upon the nature of the course. Admission to most of these classes is gained by registering during the regular College registration period; entry into some may be made at any time in the quarter. While some of these classes are conducted on the College campus, most are in adult centers which are located in schools scattered throughout the area or in other locations appropriate to the nature of the course.

Information about a specific course may be obtained from the College. General information about the present types of course offerings may be found in the following section. Other types of non-credit courses may be offered to meet the expressed needs of the community when evidence of these needs is presented to the College.

I. ADULT EDUCATION AND COMMUNITY SERVICES

Adult education and community service courses are offered for those whose education stopped short of high school graduation and/or for those who wish instruction in home and family, leisure time and culture activities. The courses are made available to the community through Centers which are located throughout Charlotte-Mecklenburg and Union County.

Adult Basic Education

The Adult Continuing Education Program of Central Piedmont Community College offers classes in fundamental education to those adults who are between the levels of 0 Grade and 8th Grade. Adults in the Adult Basic Education classes are divided in three Levels: For information, call 373-6864.

Level I — Grades 0 through 3 Level II — Grades 4 through 6 Level III — Grades 7 through 8

Upon completion of the 8th Grade, an adult may then enroll in high school courses to obtain an adult high school diploma. If you have any questions about these courses contact:

Director, Adult Education — 373-6698

Vocational/Recreational Courses

The Adult Education Program offers courses for posttime and pleasure designated vocational/recreational. These courses are offered whenever interest is indicated by sixteen or more persons. Courses offered in this category include:

Bicycling Cake Decorating Social Dancing Bridge Chess

Personal and Family Improvement Courses

Other courses designated personal and family improvement also are offered when interest is indicated by sixteen or more persons. Courses which are available include:

Personal Sewing	Basic Math	Arts & Crafts	Ethics	Languages
Auto Care	Cake Decorating	Creative Art	Geometry	Sketching
World Religions	Calligraphy	Current Events	Personal Typing	Metric System
African Culture	Ceramics	Decoupage	Vocal Music	Refresher Mathematics
Consumer Direction	Drugs & Medicine	History of Religion	Income Tax	Low for the Lowman
Mocromé	Oil Painting	Local History		

Seminars and Conferences

Seminars and conferences can be organized upon request from special interest groups.

High School Completion

Adults who have not graduated from high school may earn an adult high school diploma through the High School Completion courses offered by the College. The adult high school diploma is an earned diploma granted by the local Board of Education in cooperation with the College.

An adult who has not met the requirements for high school graduation by having completed four units of English, one unit of mathematics, two units of general science and biology and one unit of American History, must enroll for at least one quarter in each subject in which there is a deficiency. At the completion of a quarter and upon recommendation of the teacher, a standardized test will be administered by the College.

If a satisfactory level of achievement is indicated by the test score the student will be credited with having completed the subject and will be given credit toward graduation. English and mathematics must be completed first. If no high school credits have been earned and standardized achievement test results indicate an educational performance level lower than Grade 8.9, the adult must enroll in basic education classes to acquire skills necessary to successfully pursue high school completion courses.

Upon completion of all requirements, the adult is recommended to the local Board of Education as eligible to receive the Adult High School diploma. The local Board of Education, according to previous agreement with Central Piedmont Community College, then issues the high school diploma.

Adult Education Centers

Education courses for adults over 18 are offered at the following centers. Time and place may change. For up-to-date information, contact:

Director, Adult Education — 373-6698.

Bethlehem Center
2705 Baltimore Avenue

East Mecklenburg
6800 Monroe Road

Garinger
1100 Eastway Drive

Goodwill Industries
2001 Freedom Drive

Greenville Neighborhood Center
1330 Spring Street

Nevins Center
3523 Nevins Road

North Mecklenburg
Statesville Road

Statesville Avenue
2802 Statesville Avenue

Huntersville Prison
Huntersville, N.C.

Independence
1967 Patriot Drive

Irwin Ave. School
329 Irwin Ave.

West Charlotte
2219 Senior Drive

South Mecklenburg H.S.
Park Road

Myers Park H.S.
2400 Calany Road

C.N. Jenkins Memorial
U-P Church
1421 Statesville Rd.

A.D.A.P.

CPCC Annex Square

II. OCCUPATIONAL EXTENSION COURSES

Extension courses are offered for those who need short-term training, retraining or upgrading in a vocational or professional area. The titles which follow are indicative of the types of courses that are frequently offered; however, any training, retraining or upgrading course can be offered to meet an expressed community need. For information contact: Director Occupational Extension 373-6554 or 373-6575.

Supervisory Development Training

Supervisory Development Training Classes train persons interested in becoming supervisors and provide instruction for supervisors at various levels of management as preparation for advancement.

Following is a partial list of supervisory courses:

Human Relations
Effective Communications
Effective Writing
Effective Speaking
Work Measurement
Economics in Business & Industry
Art of Motivating People

Job Methods
Conference Leadership
The Supervisor in North Carolina
Job Analysis Training
Creative Thinking
Industrial Safety and Accident Prevention
Principles of Supervision

Fire Service Training

The growing Piedmont area of North Carolina requires expansion of fire fighting units and upgrading of fire service personnel. The need for better trained personnel is met by the College through training provided in the latest techniques.

Fire service training is taken directly to the individual fireman. Training sessions are held in the local fire departments allowing the members to be trained as an organized group utilizing equipment they would ordinarily use in firefighting. The College also offers an associate degree in this area.

Law Enforcement Training

A growing need for better trained law enforcement officers is met by the College through opportunities for training. Basic Law Enforcement and special seminars are conducted several times a year in order to meet these needs. The College also offers an associate degree curriculum in Law Enforcement.

Miscellaneous Training

- Banking

Blueprint Reading

Health Related Training

Sewing

Upholstery
- Insurance

Institutional Housekeeping

FCC Licensing

Salesmanship

Apprenticeship and Licensure Training

Many people learn a trade by working on the job where they acquire skills by using tools of the trade. The College offers opportunities for these persons to acquire related instruction in the classroom at night. Several of the trade areas in which related instruction is available are:

- Electricity

Sheet-Metal

Bricklaying (Beginning)

Hotel/Motel Management

Sewing & Alterations
- Carpentry (Beginning)

Plumbing & Steamfitting

Small Engine Repair

Apartment Resident Manager

MONROE LEARNING CENTER

To serve the people of Union County, CPCC has established the Manrae Learning Center which is located at 300 West Crawell Street, downtown Monroe. A variety of curriculum and extension courses, along with new industry training and re-training programs, is offered to the community through the Center. Staffed by a full-time director and a part-time secretary, the Center is open to the public from 8:30 a.m. to 5:30 p.m., Monday through Friday. For assistance and further information call (704) 289-1600 in Monroe.

III. CONTRACTUAL PROGRAMS

The College contracts with various local, state and federal agencies to provide specific training for students selected and referred by the agency. For information, call 373-6864.

CETA Courses

Under the provisions of the Comprehensive Employment Training Act (CETA) persons who are unemployed or under-employed are eligible for certain types of training. In cooperation with CETA prime sponsors and the Employment Security Commission of North Carolina, the college offers specialized course work as scheduled by these agencies.

New and Expanding Industry Training

The College offers specialized courses as needed to meet the demands of new and expanding industries in the area for workers requiring specific skills training. For information contact: Vice President, Continuing Education, 373-6717.

CORRECTIONAL SCIENCE

The Correctional Science program is designed to provide college level education for men and women who are working in, or anticipating entering, the challenging and meaningful field of Corrections and allied fields. This field of study has become particularly demanding each year due to the rapid increase of persons committing crimes against society. The need for professionals to help meet the changing trends in the American Correctional System has never been greater.

For qualified men and women there are job opportunities in youth services and centers as counselors and recreational personnel, departments of correction as custody and treatment staff, federal prison services, court counselors and intake officers, and probation/parole officers.

DESCRIPTION OF CURRICULUM

The curriculum is designed to give students the skills, knowledge and understanding required of correctional paraprofessional personnel. Upon successful completion of the curriculum, the degree of Associate in Applied Science will be awarded. Classes are scheduled bath day and evening to accommodate full-time students and in-service persons working irregular hours.

Suggested Sequence of Required Courses For Correctional Science

										QTR	
										HRS	
										CLS	
										LAB	
										CR	

THIRD QUARTER

COM	3306	Communications III			
		OR			
COM	1306	Eng. Composition III	3	0	3
CSC	3504	Juvenile Justice Systems	5	0	5
PSY	3314	Principles of Humanistic Psychology	3	0	3
SEC	3404	Typing I	3	2	4
			14	2	15

FOURTH QUARTER

CSC	3514	Contemporary Correctional Institutions	5	0	5
*HSA	3604	Helping Relationship Tech.	3	9	6
PSC	3510	Criminol Low	5	0	5
			13	9	16

FIFTH QUARTER

CSC	4504	Corrections/Now & Future	5	0	5
MAT	3501	Mathematics for Public Safety			
		OR			
MAT	1504	College Algebra	5	0	5
PSC	4501	Constitutional Low	5	0	5
SPH	1300	Communications	3	0	3
			18	0	18

SIXTH QUARTER

HED	1204	First Aid I	1	2	2
HSA	3421	Helping & Behaviorol Stress	3	0	3
PSC	4310	Self Defense & Weopanny	1	4	3
PSC	4520	Public Relations	5	0	5
		Elective	5	0	5
			15	6	18

Recommended Electives: Any course in the following programs (PSC) Law Enfarcement, (SSH) Industrial Safety, Security, and Health Management, and (FIP) Fire Science.

OTHER RECOMMENDED ELECTIVES

BIO	1500	Bialogical Science	MAT	2514	Statistics I
BUS	1400	Introduction ta Business	PHI	1500	Introduction to Philosophy
ACC	1604	Principles of Accounting I	PHI	2500	Logic
CHM	1504	General Chemistry I	POL	1502	American Gavernment
EDP	3300	Introduction to Computer Concepts	PSY	2504	General Psychology
HIS	1502	American History I	PSY	2524	Mental Retardation
			SOC	2514	Introduction ta Sacialogy
			PSY	2514	Abnormol Psychology

*HSA 3604 Is an internship course which will be taken by students who have completed at least 50 credits in the Correctional Science Program:

DENTAL ASSISTING

The primary function of the dental assistant is to serve as the chairside assistant to the dentist. Here the assistant plays an active and integral role in dental pracedures by preporing potients for treatment, setting out instruments in the order in which they are to be used, keeping the operation field clear during treatment, mixing filling materials, and dental cements and possing these materials and instruments to the dentist as they are needed.

The troined dental assisntent also checks equipment, sterilizes instruments ond engages in such laboratory work os mok-ing study madels of teeth, casting inlays, processing x-ray films ond maunting them in appropriate holders.

In many offices the dental assistant also serves as receptionist and affice manager, schedules oppointments, and main-tains financial and patient records.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College includes instruction in dental onatamy and physiology, bac-teriology, pharmacalagy, oral pathalogy, dental materials, chairside assisting, typing, English, human relations and record keeping. A large portion of the student's time is spent in laboratory wark and clinical experiences. A graduate from this cur-riculum will receive a diploma from the College ond is eligible to toke the Notional Certification Exomination.

Suggested Sequence of Required Courses Far Dental Assisting

			COURSE TITLE	HOURS/WEEK			QTR HRS
				CLS	LAB	CLN	CR
FIRST QUARTER							
COM	5500	Communications Skills		5	0	0	5
HSA	5200	Human Relations		2	0	0	2
DEA	5300	Anatamy and Physiology		3	0	0	3
DEA	5302	Introduction ta Dentol Assistant		2	0	3	3
DEA	5600	Dental Materials		3	9	0	6
DEA	5304	Preclinical Science I		3	0	0	3
				18	9	3	22
			COURSE TITLE	HOURS/WEEK			QTR HRS
				CLS	LAB	CLN	CR
SECOND QUARTER							
ACC	5610	Medical Accounting		5	2	0	6
COM	5301	Communicotons Skills II		3	0	0	3
DEA	5305	Preclinical Science II		3	0	0	3
DEA	5414	Dentol Roentgenology		2	0	6	4
DEA	5424	Clinical Pracedures I		2	0	6	4
				15	2	12	20

THIRD QUARTER

DEA	5525	Clinical Procedures II	4	0	3	5
DEA	5534	Dental Office Management	4	0	3	5
DEA	5344	Dental Office Practice I	0	0	9	3
SPH	1300	Oral Communications	3	0	0	3
SEC	3404	Typing I	3	2	0	4
			14	2	15	20

FOURTH QUARTER

DEA	5204	Dental Assistant Seminar	2	0	0	2
DEA	5845	Dental Office Practice II	0	0	24	8
			2	0	24	10

DENTAL HYGIENE

The Curriculum at Central Piedmont Community College includes a background of basic studies, specialized and directed experience. The dental hygiene student will cultivate the judgement and skill prerequisite for providing oral health care to the public under the supervision of the dentist within the limits of the ethics and laws of the state.

DESCRIPTION OF CURRICULUM

The educational program consists of the theory and practice of dental hygiene, basic science and health courses and appropriate general education experiences. Dental Hygiene experience is provided through the use of a dental hygiene clinic located on the College campus and through affiliations with nearby hospitals. Admission is based upon satisfactory scores on specific placement tests, personal interviews and evidence of good physical health.

The curriculum is accredited. Graduates in this curriculum receive the degree Associate in Applied Science in Dental Hygiene. Prerequisites — High School Algebra, Chemistry, Red Cross First Aid or Equivalent.

Suggested Sequence of Required Courses For Dental Hygiene

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CLN	HRS
FIRST QUARTER						
COM	1304	Intraduction to Communications	3	0	0	3
DEN	3404	Dental Anatamy I	1	6	0	4
BIO	1504	Human Anatomy & Physialagy I	3	4	0	5
DEN	3314	Preventive Dentistry I	3	0	0	3
HPE		Elective				
			10	10	0	15
SECOND QUARTER						
COM	1305	English Camp. II	3	0	0	3
DEN	3405	Dental Anatamy II	1	6	0	4
BIO	1505	Human Anatomy & Physialagy II	3	4	0	5
SPH	1300	Oral Cammunications	3	0	0	3
CHM	1501	Intraductary Chemistry II	3	4	0	5
			13	14	0	20
THIRD QUARTER						
COM	1306	English Campasitition III	3	0	0	3
DEN	3524	Dental Hygiene I	2	6	0	5
BIO	1503	Microbialagy	3	4	0	5
CHM	1502	Intraductory Chemistry III	3	4	0	5
DEN	3224	Head & Neck Anatamy	2	0	0	2
			13	14	0	20
FOURTH QUARTER						
DEN	4200	Office Emergencies	2	0	0	2
DEN	4315	Preventive Dentistry II	3	0	0	3
DEN	4425	Dental Hygiene II	1	0	9	4
DEN	4301	Dental Radialagy	2	3	0	4
DEN	4500	Dental Materials	3	4	0	5
			11	7	9	18
FIFTH QUARTER						
DEN	4204	Pharmacalagy	2	0	0	2
DEN	4426	Dental Hygiene III	0	0	12	4
BIO	2305	Dental Nutritition	3	0	0	3
DEN	4304	Embryalogy & Oral Histalogy	3	0	0	3
DEN	4231	General Pathalogy	2	0	0	2
DEN	4114	Periadantics	1	0	0	1
DEN	4104	Clinical Theary I	1	0	0	1
			12	0	12	16

SIXTH QUARTER

PSY	2504	General Psychalogy	5	0	0	5
DEN	4527	Dental Hygiene IV P.R. DEN 4426	0	0	15	5
DEN	4316	Preventive Dentistry III P.R. DEN 4315	3	0	0	3
DEN	4390	Individual Study	3	0	0	3
DEN	4105	Clinical Theory II P.R. DEN 4104	1	0	0	1
DEN	4332	Oral Pathalagy P.R. DEN 4231	3	0	0	3
			15	0	15	20

SEVENTH QUARTER

PSY		Elective (5 Hours)	5	0	0	5
DEN	4628	Dental Hygiene	0	0	18	6
DEN	4214	Practice Administration	2	0	0	2
SOC	2514	Intraduction to Sacialagy	5	0	0	5
DEN	4106	Clinical Theory III	1	0	0	1
			13	0	18	19

DIESEL ENGINE MECHANICS

Modern diesel engines are manufactured in a great variety of types and sizes and are used for many different purposes from stationary units to large trucks to construction equipment. These engines are complicated machines requiring highly skilled, well-trained persannel to properly repair and maintain them for operation at peak efficiency. Opportunities are excellent for the person who is anxious to learn and willing to wark.

DESCRIPTION OF CURRICULUM

The Diesel Engine Mechanics Program at Central Piedmont Community Callege has two main abjectives: to train the aspiring mechanic far entry into the diesel repair and maintenance field, and to serve the greater Charlotte area by providing training and upgrading far service people in two of aur major industries, transportation and diesel equipment service. These abjectives are obtained by hands-an training and individual study of major diesel engines. This curriculum provides far a detailed nine month study of diesel fundamentals, engine repair pracedures, electrical systems, air, fuel and lubrication systems an Caterpillar, Cummins, Detroit and Mack diesel engines. Completion of this program leads to a certificate in Diesel Engine Mechanics.

Suggested Sequence of Required Courses Far Diesel Engine Mechanics

COURSE TITLE				QTR		COURSE TITLE				QTR			
				HRS	HRS					HRS	HRS		
				CLS	LAB	CR					CLS	LAB	CR
FIRST QUARTER													
AUT	5401	Internal Cambustian Engines I		2	6	4	WLD	5110	Basic Oxyacetylene Welding	0	3	1	
AUT	5242	Basic Electrical Systems		1	3	2	AUT	5212	Electrical Testing	1	3	2	
MAT	5304	Shap Mathematics I		3	0	3	PHY	5304	Shap Science I	2	2	3	
DSL	5300	Diesel Fundamentals		2	3	3	DSL	5404	Caterpillar Diesels	2	6	4	
AUT	5211	Basic Fuel Systems		1	3	2	DSL	5405	Cummins Diesels	2	6	4	
DSL	5304	Hydraulics & Pneumatics		2	2	3	MAC	5201	Machine Shap Practices	1	3	2	
						17							16
THIRD QUARTER													
PHY	5305	Shap Science II		2	2	3	RECOMMENDED ELECTIVES						
AUT	5254	Auta Air Canditioning		1	3	2	AUB	5300	Auta Body Minar Damage & Paint Repair	1	6	3	
DSL	5406	Detroit 2-Cycle Diesels		2	6	4	AUT	5203	Autamative Tune-up	1	3	2	
DSL	5407	Mack Diesels		2	6	4	AUT	5404	Auta Chassis & Suspension Systems	2	6	4	
WLD	5120	Basic Electric Arc Welding		0	3	1	AUT	5824	Auta Power Train Systems	4	12	8	
		Elective		0	3	1	MME	5402	Matarcycle Engine Service	2	6	4	
						15	PME	5211	Small Engine Repair I	1	3	2	
							WLD	5140	Basic Gas-Metal Arc Welding	0	3	1	

NOTE: SPECIAL COSTS

When enralling in DSL courses, the students are required to furnish their awn toals. A list of these basic toals can be abtained by contacting one of the Diesel Engine Mechanics Instructors.

**ELECTRICAL/ELECTRONICS
ENGINEERING TECHNOLOGY**

Electronics Engineering Technology

Continued develapments in the fields of Electrical and Electronics Engineering Technalogy are providing interesting and challenging career appartunities far the Electrical/Electranics Engineering Technician with an Associate in Applied Science (AAS) Degree. In recent years the degree has become well recognized at the local, regional, and national levels.

Electrical Engineering Technology

PURPOSE OF CURRICULUM

The Electrical and Electronics Engineering Technalogy curricula provide a basic background in the practical application

of both fundamental and specialized electrical and electronic principles. Courses are designed to present technical content in an order that will provide students with progressive levels of job related knowledge and skills. The curricula are designed to enable a graduate to function as an Engineering Technician who can speak, write, and understand the language of both the engineer and the craftsman.

CAREER OPPORTUNITIES

The Electrical or Electronics Engineering Technician may be employed in areas such as: 1. design, 2. development, 3. production, 4. maintenance, 5. field service, 6. testing, 7. technical writing, or 8. sales.

Electrical Engineering Technology

The Electrical Engineering Technician may typically choose employment in specialized fields such as: 1. power electronics, 2. electrical machines, 3. industrial instrumentation, 4. industrial controls, 5. commercial and industrial electrical installations, and 6. electrical testing.

Specific job assignments would include: 1. engineering assistant, 2. equipment specialist, 3. engineering technician, 4. electrical designer, 5. field service technician, 6. bench technician, 7. technical writer, 8. instrumentation and control technician, 9. electrical estimator, or, 10. sales representative.

Electronics Engineering Technology

The Electronics Engineering Technician may typically choose employment in specialized fields such as: 1. microcomputer electronics, 2. digital electronics, 3. analog electronics, 4. medical electronics, 5. communication electronics, 6. consumer electronics, 7. industrial instrumentation, and 8. traffic controls.

Specific job assignments would include: 1. engineering assistant, 2. equipment specialist, 3. engineering technician, 4. customer service technician, 5. laboratory technician, 6. field service technician, 7. computer technician, 8. bench technician, 9. technical writer, 10. instrumentation and control technician, or 11. sales representative.

A further option to the graduate is two years continued study at numerous senior institutions offering a Bachelor of Engineering Technology (B.E.T.) Program. Students who plan to pursue such a course of study should consult with a counselor for specific mathematics and science requirements.

FACILITIES

The Electrical/Electronics Engineering Technology Laboratory facilities remain open during normal day and evening hours in order that students may devote as much time as desired to laboratory assignments. The laboratory is considered one of the nation's largest, most modern, attractive, and well equipped Electrical/Electronic facility in a community college.

ADMISSION AND ACADEMIC PREPARATION

To enter the program, return an application to the student information desk and make an appointment for a placement test. After the tests a counselor will interview prospective students and recommend specific courses for enrollment based upon an evaluation of transcripts and test scores. Individuals with applicable college background may by-pass the placement tests and begin the admissions process by scheduling an interview with the counselor.

The program is designed for students with the equivalent of 2 years of high school algebra and one year of plane geometry. Upon advice of a counselor, individuals lacking this background must enroll in an appropriate algebra course to prepare for Technical Mathematics I and Basic Electricity (DC). Individuals deficient in reading will be advised to enroll in an appropriate reading course.

DEGREES

Upon successful completion of the curriculum an Associate in Applied Science (AAS) in either Electrical or Electronics Engineering Technology will be awarded. Students holding either the Electrical or the Electronics degree and desiring the second degree must complete four (4) additional unduplicated Electrical/Electronics courses and meet the requirements of the desired degree.

ELECTRICAL ENGINEERING TECHNOLOGY

The Suggested Sequence of Required Courses for Electrical Engineering Technology:

COURSE TITLE				QTR			COURSE TITLE				QTR					
				HRS/WK	CLS	LAB	CR					HRS/WK	CLS	LAB	CR	
FIRST QUARTER							SECOND QUARTER									
COM	1304	Intra. ta Communication		3	0	3	COM	3505	Communications II		3	0	3			
MAT	3504	Technical Math I		5	0	5	MAT	3505	Technical Math II		5	0	5			
ELN	3100	Electrical/Electronics Seminar		1	0	1	ELN	3515	Basic Electricity (AC)		3	6	5			
ELN	3514	Basic Electricity (DC)		3	6	5	ELN	3304	Instruments & Measurements		2	3	3			
				12	6	14					13	9	16			
THIRD QUARTER							FOURTH QUARTER									
PHY	1404	Physics I: Basic Mechanics		3	2	4	PHY	1405	Physics II: Elastic and Thermal Properties of Matter		3	2	4			
DFT	3400	Electrical/Electronics Drafting		2	6	4	ELN	3405	Electronics II: Analog Circuits		3	3	4			
	4444	Network Analysis		3	3	4	ELN	4427	Digital Circuits I		3	3	4			
ELN	3404	Electronics I: Active Devices		3	3	4	ELN	4525	Electrical Machines I		3	6	5			
				11	14	16					12	14	17			
FIFTH QUARTER							SIXTH QUARTER									
SPH	1300	Oral Communications		3	0	3	COM	3306	Communications III		3	0	3			
ELN	3517	Electronics III: Circuits		3	6	5	ELN	4415	Industrial Control Circuits		3	3	4			
ELN	4526	Electrical Machines II		3	6	5	ELN	4326	Electrical/Electronics Project		2	3	3			
ELN	4401	Planning Electrical Installations		3	3	4	ELN		E/E Specialty Elective**	(2-3)	(3-6)	(3-5)				
				12	15	17					3	0	3			
											(13-14)	(9-12)	(16-18)			

COURSE TITLE			QTR		
			HRS/WK	HRS	
			CLS	LAB	CR
SEVENTH QUARTER					
ELN	4100	Electrical/Electronics Senior Seminar	1	0	1
ELN	4505	Power Electronics	3	6	5
ELN	4307	Systems Correction Procedure	1	6	3
ELN		E/E Specialty Elective**	3	(3-6)	(4-5)
		General Education Elective*	3	0	3
			(15- (16-		
			11	18)	17)
Total Quarter Hours			(112-115)		

ELECTRONICS ENGINEERING TECHNOLOGY

The Suggested Sequence of Required Courses For Electronics Engineering Technology:

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	HRS					HRS/WK	HRS	
FIRST QUARTER						SECOND QUARTER					
CLS	LAB	CR	CLS	LAB	CR	CLS	LAB	CR	CLS	LAB	CR
COM	1304	Intro. to Communication	3	0	3	COM	3305	Communications II	3	0	3
MAT	3504	Technical Math I	5	0	5	MAT	3505	Technical Math II	5	0	5
ELN	3100	Electrical/Electronics Seminar	1	0	1	ELN	3515	Basic Electricity (AC)	3	6	5
ELN	3514	Basic Electricity (DC)	3	6	5	ELN	3304	Instruments & Measurements	2	3	3
			12	6	14				13	9	16
THIRD QUARTER						FOURTH QUARTER					
PHY	1404	Physics I: Basic Mechanics	3	2	4	PHY	1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
DFT	3400	Electrical/Electronics Drafting	2	6	4	ELN	3405	Electronics II: Analog Circuits	3	3	4
ELN	4444	Network Analysis	3	3	4	ELN	4427	Digital Circuits I	3	3	4
ELN	3404	Electronics I: Active Devices	3	3	4	ELN	4525	Electrical Machines I	3	6	5
			11	14	16				12	14	17
FIFTH QUARTER						SIXTH QUARTER					
SPH	1300	Oral Communications	3	0	3	COM	3306	Communications III	3	0	3
ELN	3517	Electronics III: Circuits	3	6	5	ELN	4326	Electrical/Electronics Project	2	3	3
ELN	4434	Digital Circuits II	3	3	4	ELN	4407	Electronics IV: Op-Amps	3	3	4
EDP	3405	Microcomputer Programming: Basic OR				ELN	**	E/E Specialty Elective	3	(3-6)	(4-5)
EDP	1404	Comp. Concepts & FORTRAN Programming I	3	2	4	ELN	**	E/E Specialty Elective	3	(3-6)	(4-5)
			3	0	3				(12- (18-		
			15	11	19				14	18)	20)

COURSE TITLE			QTR		
			HRS/WK	HRS	
			CLS	LAB	CR
SEVENTH QUARTER					
ELN	4100	Electrical/Electronics Senior Seminar	1	0	1
ELN	4307	Systems Correction Procedure	1	6	3
ELN	**	E/E Specialty Elective	3	(3-6)	(4-5)
ELN	**	E/E Specialty Elective	3	(3-6)	(4-5)
		General Education Elective*	3	0	3
			(12- (15-		
			11	18)	17)
Total Quarter Hours			(115-119)		

*General Education Electives must be selected from the areas of Communications, Social Science, and/or Humanities (Art, Drama, Music, Literature, Language, Philosophy).

*Recommended general education electives are:

BUS	3300	Applied Psychology	ECO	2304	Economics I
MGT	3305	Small Business Management	ECO	2305	Economics II
BUS	1400	Introduction to Business	SPH	2304	Public Speaking

****Electrical/Electronic (E/E) Specialty Electives for both Electrical and Electronics Programs:**

ELN	3414	Industrial Instrumentation
ELN	4404	Medical Electronics
ELN	4414	Receivers and Transmitters
ELN	4547	Microprocessors I

ELN	4557	Microprocessors II
MAT	3506	Technical Math III
BIO	1504	Human Anatomy and Physiology (if taking Medical Electronics)

for Electronics Program only:

ELN	4304	Radio/Telephone Operation
ELN	4401	Planning Electrical Installations
ELN	4415	Industrial Control Circuits
ELN	4505	Power Electronics
ELN	4526	Electrical Machines II

for Electrical Program only:

ELN	4310	Introduction to Microprocessors (or ELN 4547)
ELN	4407	Electronics IV: Op-Amps
ELN	4434	Digital Circuits II
EDP	3305	Microcomputer Programming-Basic

ENVIRONMENTAL SYSTEMS TECHNOLOGY

In recent years the use of air-conditioning and refrigeration equipment has increased tremendously! The accelerated use of sophisticated air conditioning, electric heat, and even more exotic combinations of heating and air conditioning systems are bringing swift and complex changes throughout the industry. Rapid strides are being made in the development of refrigeration equipment and machinery that is more intricate and highly efficient is replacing obsolete installations.

Air conditioning has become a major national industry and offers many opportunities for employment. The variety and complexity of today's air conditioning and refrigeration equipment requires continued upgrading of existing personnel and increased sophistication of training programs.

The demand for refrigeration and air conditioning technicians who can plan, install, or manage industrial and commercial equipment will continue. There are also excellent opportunities for graduates who desire to establish their own businesses in this field. The air conditioning and refrigeration technician is in a specialized field, much in demand and offering good pay.

DESCRIPTION OF CURRICULUM

The Environmental Systems Technology curriculum of Central Piedmont Community College includes both classroom and laboratory experiences with practical applications to the industry.

The degree Associate in Applied Science in Environmental Systems Technology is awarded upon completion of the program.

Any graduate of the one year Air Conditioning and Refrigeration curriculum of Central Piedmont Community College will be admitted with advanced standing.

Suggested Sequence of Required Courses For Environmental Systems Technology

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS/WK	HRS						HRS/WK	HRS	
				CLS	LAB	CR					CLS	LAB	CR
FIRST QUARTER							SECOND QUARTER						
AHR	5301	Introduction to Automatic Controls		3	0	3	AHR	5314	Automatic Controls		2	3	3
AHR	5313	Refrigeration Service Principles		2	3	3	AHR	5321	Commercial Refrigeration Installation		2	3	3
AHR	5411	Refrigeration Theory		4	0	4	AHR	5333	Liquid Heat-One-Pipe Systems		2	3	3
AHR	5412	Refrigeration Shop Practice		2	6	4	AHR	5334	Liquid Heat-Two-Pipe Systems		2	3	3
MAT	5304	Shop Mathematics I		3	0	3	MAT	5305	Shop Mathematics II		3	0	3
PHY	5304	Shop Science I		2	2	3	PHY	5305	Shop Science II		2	2	3
						20							18
THIRD QUARTER							FOURTH QUARTER						
AHR	5204	Wiring Diagrams & Troubleshooting for A/C Systems		1	3	2	AHR	5324	Environmental Systems Blueprint Reading		3	0	3
AHR	5323	Oil Burners		2	3	3	AHR	5341	Gas Heat		2	3	3
AHR	5331	Air Conditioning-Residential		2	3	3	AHR	5342	Electric Heat		2	3	3
AHR	5322	Commercial Refrig. Service		2	3	3	AHR	5443	All Weather Systems- Conventional		3	3	4
AHR	5332	Air Conditioning-Commercial		2	3	3	AHR	5444	All Weather Systems- Heat Pumps		2	6	4
COM	1304	Introduction to Communications		3	0	3	COM	3305	Communications II		3	0	3
						17							20
FIFTH QUARTER							SIXTH QUARTER						
AHR	4451	Commercial Refrig. System Design		4	0	4	AHR	4361	Residential Air Distribution & Balance		2	2	3
AHR	4452	Residential A/C System Design		3	2	4	AHR	4462	Commercial Air Distribution & Balance		3	2	4
AHR	4453	Commercial A/C Systems Design		3	2	4	AHR	4463	Control Systems		3	2	4
COM	3306	Communications III		3	0	3	ECO	2304	Economics I		3	0	3
DFT	4254	Environmental Systems Drawing I		1	2	2	Elective — General Education				3	0	3
						17							17

COURSE TITLE			HRS/WK		QTR
			CLS	LAB	HRS
SEVENTH QUARTER					
AHR	4304	Intraduction to Psychra- metrics	3	0	3
AHR	4373	Hydronic Systems Balance	2	2	3
AHR	4372	Hydronic Distribution System Design	3	0	3
AHR	4571	Installation & Service Problems	2	6	5
		Elective — AHR			3
		Elective — General Education			3
					20

RECOMMENDED ELECTIVES

AHR Electives:

AHR	4382	Air Conditioning Estimates & Contracts	3	0	3
AHR	4490	Solar Heating & Cooling Systems I	4	0	4
AHR	4491	Solar Heating & Cooling Systems II	4	0	4
AHR	5394	Mechanical Codes I-A.R. Codes	3	0	3
AHR	5594	Duct Design I-Rectangular Duct	3	6	5
AHR	5495	Duct Design II-Round Duct	3	3	4
MAC	5201	Machine Shop Practices	1	3	2
WLD	5120	Basic Electric Arc Welding	0	3	1
WLD	5140	Basic Gas-Metal Arc Welding	0	3	1

General Education Electives:

SPH	1300	Oral Communications	3	0	3
SPH	2304	Public Speaking	3	0	3
PSY	2504	General Psychology	5	0	5
SOC	1301	Group Interaction	3	0	3

NOTE: Students Are Expected Ta Furnish Taals For Selected Courses.

FIRE SCIENCE TECHNOLOGY

The fire science technician is responsible far seeking to prevent losses by eliminating hazards, by inspecting various types of buildings for fire and safety hazards, checking existing fire and safety codes for methods of eliminating hazards and applying principles of protection in a logical sequence ta arrive at solutions.

Employment opportunities as a fire science technician are available with insurance companies, industrial firms, govern-
mental agencies, educational organizations, fire protection equipment manufacturers and research groups. The technician
may also be involved in teaching the use of basic fire protection and safety equipment, in demonstrating equipment and in
supervising installation of equipment.

DESCRIPTION OF CURRICULUM

Fire Science Technology is a two-year curriculum of technical education designed to prepare the individual for entry-
level employment as a fire science technician. The curriculum provides a basic technical background in fire protection, safety
and related subjects. Students are trained to identify fire and safety hazards and to prapose effective measures far eliminat-
ing hazards. Specific skills are developed in many phases of the occupation. Graduates will receive the degree Associate in
Applied Science in Fire Science Technology.

Specialized Course Requirements

			HRS/WK	QTR		
COURSE TITLE			CLS	LAB	HRS	QTR
					CR	OFRD
FIP	3303	Fire Protection I	3	0	3	F
FIP	3406	Arson Dectection & Investigation	3	2	4	F
FIP	4414	Inspection Principles & Building Codes	3	2	4	F
FIP	4314	Methods of Teaching*	3	0	3	F
FIP	4444	Fire Fighting Strategy	3	2	4	W
FIP	4304	Fire Protection Law	3	0	3	W
FIP	3304	Fire Protection II	3	0	3	W
FIP	3404	Chemistry of Flammable Materials*	3	2	4	W
FIP	3301	Fire Prevention Programs & Public Relations	3	0	3	S
FIP	4434	Chemical & Radiation Hazards*	3	2	4	S
FIP	4403	Hydraulics for Fire Protection*	3	2	4	S
FIP	4423	Portable & Fixed Extinguishing Systems	3	2	4	S
FIP	4454	Building Construction & Material Rating	3	2	4	SS
FIP	4405	Sprinkler & Standpipe Systems	3	2	4	SS
FIP	4404	Water Distribution Systems*	3	2	4	SS
FIP	4424	Automatic Alarm Systems	3	2	4	SS
			48	22	59	

General Education Requirements

CHM	3600	Fire Protection Chemistry	4	4	6	S
MAT	3500	Mathematics for Firemen	5	0	5	W
COM	1304	Introduction to Communication	3	0	3	W
EDP	3300	Introduction to Computer Concepts	3	0	3	
PHY	5304	Shop Science I	2	2	3	
PHY	5305	Shop Science II*	2	2	3	
COM	3305	Communications II*	3	0	3	
COM	3306	Communications III*	3	0	3	
HSA	3421	Helping & Behavioral Stress	4	0	4	F,S
DFT	3404	Technical Drafting	2	6	4	
SPH	1300	Oral Communications	3	0	3	
SPH	2304	Public Speaking*	3	0	3	
MGT	4330	Supervision	3	0	3	
TOTAL			39	16	46	
			87	38	105	

Completion of the above course work will entitle the student to the Associate Degree in Applied Science in Fire Science Technology.

*Prerequisite required to take course.

A full time student may complete the above program in 24 months. All specialized courses are offered once a year. The general education courses are offered every quarter, except those designated.

F-Fall Quarter W-Winter Quarter S-Spring Quarter SS-Summer Quarter

FOOD SERVICE TECHNOLOGY

The food service industry is among the largest employers in the country today. With the increase in numbers of people eating outside the home, projected employment needs in this area now and in the future are numerous. This curriculum is designed to provide the student with the basic fundamentals of all types of food preparation. In addition, supervisory skill and financial management are emphasized so that the student will be able to progress into supervisory positions.

Job opportunities in the food service industry cover a broad span of positions and titles. Career positions available upon graduation will include the following: Garde Manger, First Cook Saus Chef, Bonquet Chef, and Baker.

DESCRIPTION OF CURRICULUM

The Food Service Technology Program is designed to prepare the student for a variety of job opportunities in the food service industry. The curriculum provides basic skills in all areas of food preparation. In addition, courses in Business Management, Accounting, Communications, and Psychology provide a well balanced program designed to give both technical and administrative skills. Upon successful completion of the required courses the degree of Associate in Applied Science in Food Service Technology will be awarded.

The Food Service Technology Program also offers a basic certificate program. To qualify for a certificate the student must successfully complete the marked (*) courses.

FOOD SERVICE TECHNOLOGY

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	HRS					HRS/WK	HRS	
			CLS	LAB	CR				CLS	LAB	CR
FIRST QUARTER						SECOND QUARTER					
FSO	3300	Introductory to Food Service Technology*	3	0	3	FSO	3505	Food Preparation II*	2	9	5
FSO	3504	Food Preparation I*	2	9	5	COM	3305	Communications II	3	0	3
HRM	3104	Speaker Seminar I*	1	0	1	FIN	3314	Business Mathematics I*	3	0	3
COM	1304	Intro. to Communication	3	0	3	FSO	3305	Table Cookery	2	3	3
			9	9	12	Elective			3	0	3
									13	12	17
THIRD QUARTER						FOURTH QUARTER					
FSO	3506	Food Preparation III*	2	9	5	FSO	4506	Food Preparation IV*	2	9	5
FIN	3315	Business Mathematics II	3	0	3	ACC	3500	Small Business Accounting*	5	0	5
SPH	1300	Oral Communications*	3	0	3	FSO	4414	Garde Manger I*	2	6	4
			3	0	3	FSO	4407	Baking I*	2	6	4
			11	9	14				11	21	18
FIFTH QUARTER						SIXTH QUARTER					
FSO	4507	Food Preparation V	2	9	5	FSO	4508	Work Experience Seminar*	2	9	5
BUS	3300	Applied Psychology	3	0	3	MGT	4332	Personnel Management I	3	0	3
FSO	4415	Garde Manger II	2	6	4	FSO	4416	Garde Manger II*	2	6	4
FSO	4408	Baking II*	2	6	4	FSO	4409	Baking III*	2	6	4
			9	21	16	FSO	4304	Food & Labor Cost Controls*	3	0	3
									12	21	19

*Courses so marked are required for a basic certificate.

GENERAL COLLEGE IMPROVEMENT

ADVANCEMENT STUDIES GENERAL EDUCATION

INTERNATIONAL CULTURE READING

General College Improvement courses are designed to meet individual needs of the diverse CPCC student population. The following programs and courses are included in General College Improvement.

ADVANCEMENT STUDIES DEPARTMENT

The Advancement Studies Department is based on the philosophy that each student has unique educational needs and goals. Once these goals are identified, they can best be accomplished by allowing the students to progress at their own pace in an open, caring atmosphere. This atmosphere is marked by its acceptance of the student as a unique individual who has specific needs.

Each course in the Advancement Studies Department has stated objectives, with a system designed to help each individual accomplish these objectives. Students may advance at their own pace from one objective to the next through individual modules of instruction, individualized multi-sensory programs and instructors who coordinate each learning segment.

Advancement Studies may be conceived as a developmental studies program for students who have never reached mastery level in mathematics, biology, chemistry, and writing skills. Or the program may be thought of as a new opportunity to the students who decided later to refine some of their skills, or to change their life style through learning. At the same time the program operates as a service program to the entire college by offering courses with fundamental skills as well as courses with more advanced skills depending upon the requests and desires of students and other departments. Advancement Studies recognizes that learning is a life long process and new skills may be learned at any life stage.

Credit is granted for accomplishment of terminal objectives. These credits will receive grade points that add to the student's cumulative grade point average. The credits earned in the Advancement Studies Department meet the requirements for the degree Associate in General Education. Credits for Advancement Studies may or may not transfer to another institution depending on the course and the receiving institution.

The Advancement Studies Department in conjunction with the Office of Student Services also provides counseling services that combine the efforts of counselors with instructors to offer advice and assistance in curriculum choice, occupational outlook and discovering one's own human potential.

COURSE TITLE					COURSE TITLE				

READING DEPARTMENT

Reading permeates the entire curriculum, therefore, a high level of success in all subject matter areas is dependent upon the ability to read. The Reading Department is designed to prevent, correct, and eliminate problems in reading. The diagnoses of reading difficulties followed by the use of instructor-assisted, self-paced, and multimedia materials form the foundation for reading instruction.

The diversity of learner characteristic dictate varied levels of proficiency, therefore, the Reading Department employs differentiated instruction geared to individual needs in order to accommodate all ability levels.

COURSE TITLE			QTR		
			HRS/WK	CLS	LAB CR
RDN	9312	Speed Reading	3	2	3
RDN	9505	Reading Skills	5	0	5
RDN	9510	Reading Improvement	5	0	5

GRAPHIC ARTS

The Graphic Arts industry in the United States turns out an annual volume of printed products valued in the billions of dollars. The constant improvement of machines, methods and processes has transformed the printing procedure from the essentially slow, laborious, hand methods of early days to a procedure where the technician is aided by swift-operating automatic or semi-automatic machinery. Opportunities are excellent in this field for the person who is anxious to learn and willing to work.

DESCRIPTION OF CURRICULUM

The Graphic Arts curriculum at Central Piedmont Community College is designed to provide an overview of the graphic arts industry with major technical training in offset lithography preparation and printing. This program is designed for those who wish to prepare themselves for a career in the graphic arts industry or for those currently employed in this industry who wish to upgrade their skills. The student will not only learn the theory, but the practical application in laboratory experiences. In addition to a general introduction to graphic arts and other related courses, specific training will be offered in the following: offset stripping, platemaking, camera, and press applications. Upon successful completion of this curriculum, the student may be awarded a diploma.

Suggested Sequence of Required Courses For Graphic Arts Diploma Program

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	CLS	LAB CR				HRS/WK	CLS	LAB CR
FIRST QUARTER						SECOND QUARTER					
MGT	5200	Shop Management	2	0	2	FIN	3314	Business Mathematics I	3	0	3
COM	5500	Communication Skills	5	0	5	PRN	5113	Orientation to Co-op	1	0	1
HSA	5200	Human Relations	2	0	2	PRN	5310	Paper and Ink	3	0	3
PRN	5400	Introduction to Graphic Arts	3	2	4	PRN	5314	Process Camera I	2	2	3
PRN	5401	Copy Preparation	2	4	4	PRN	5424	Offset Press I & Bindery	2	4	4
					17	PRN	5365	Stripping I & Platemaking	2	2	3
											17
THIRD QUARTER						FOURTH QUARTER					
PRN	5315	Process Camera II	2	2	3	PRN	5301	Printing Management	3	0	3
PRN	5425	Offset Press II	2	4	4	PRN	5303	Printing Estimating I	3	0	3
PRN	5435	Offset Stripping II	2	4	4	PRN	5336	Color Reproduction	3	0	3
PRN	5206	Co-op Lab I	0	20	2	PRN	5207	Co-op Lab II	0	20	2
		OR						OR			
PRN	5700	Printing Applications I	2	15	7	PRN	5704	Printing Applications II	2	15	7
		Elective			3			Elective			3
		Total CR. HRS. with Co-op						Total CR. HRS. with Co-op Lab			
		Lab Option			16			Option			14
		Total CR. HRS. with Printing						Total CR. HRS. with Printing			
		Applications Option			21			Applications Option			19
RECOMMENDED ELECTIVES											
ACC	1604	Principles of Accounting I	5	2	6	BUS	4303	Labor Law	3	0	3
BUS	1400	Introduction to Business	3	2	4	COM	1304	Introduction to			
BUS	2304	Business Law I	3	0	3			Communication	3	0	3
MGT	2314	Principles of Management	3	0	3	COM	3305	Communications II	3	0	3
MKT	3324	Marketing	3	0	3	PRN	4337	Color Separation Techniques			
TRN	3451	Traffic Management	3	2	4			& Theory	3	0	3
MKT	4322	Purchasing	3	0	3	PRN	4354	Printing Estimating II	3	0	3
MGT	4330	Supervision	3	0	3	PRN	5390	Individual Study	3	0	3
						PRN	5313	Typesetting	2	2	3
						PRN	5316	Production Screen Printing	2	2	3
						SEC	3404	Typing I	3	2	4

GRAPHIC ARTS MANAGEMENT

DESCRIPTION OF CURRICULUM

The Graphic Arts Management curriculum at Central Piedmont Community College is designed to provide an overview of the graphic arts industry with training in major areas of lithographic preparation, printing, and management/supervision for the graphic arts industry. This program is also designed for those who wish to upgrade their skills in specific areas within the curriculum. The student may couple graphic arts theory with on campus laboratory experiences, augmented by cooperative industrial training. In addition to a general introduction to graphic arts and other related courses, specific training will be offered in the following areas: offset stripping, platemaking, camera, press applications, management, and supervision. Upon completion of the curriculum the student would be awarded an Associate in Applied Science Degree.

Suggested Sequence of Required Courses for Graphic Arts Management Degree Program

COURSE TITLE				HRS/WK	QTR		COURSE TITLE				HRS/WK	QTR			
				CLS	LAB	CR					CLS	LAB	CR		
FIRST QUARTER							SECOND QUARTER								
MGT	5200	Shop Management		2	0	2	COM	3305	Communications II		3	0	3		
COM	1304	Intra. to Communication		3	0	3	FIN	3314	Business Mathematics I		3	0	3		
HSA	5200	Human Relations		2	0	2	PRN	5310	Paper and Ink		3	0	3		
PRN	5400	Intra. to Graphic Arts		3	2	4	PRN	5314	Process Camera I		2	2	3		
PRN	5401	Copy Preparation		2	4	<u>4</u>	PRN	5365	Stripping I & Platemaking		2	2	3		
						15	PRN	5424	Offset Press I & Bindery		2	4	<u>4</u>		
													19		
THIRD QUARTER							FOURTH QUARTER								
BUS	1400	Introduction to Business		3	2	4	PRN	5301	Printing Management		3	0	3		
COM	3306	Communications III		3	0	3	PRN	5303	Printing Estimating I		3	0	3		
PRN	5315	Process Camera II		2	2	3	PRN	5336	Color Reproduction		3	0	3		
PRN	5425	Offset Press II		2	4	4	PRN	4311	Printing Sales		3	0	3		
PRN	5435	Offset Stripping II		2	4	<u>4</u>	PRN	5113	Orientation to Co-op Electives-General Education		1	0	1		
						18							6	0	<u>6</u>
															19
FIFTH QUARTER							SIXTH QUARTER								
BUS	2304	Business Law		3	0	3	MGT	2314	Business Management		3	0	3		
PRN	4337	Color Separation Techniques & Theory		3	0	3	MGT	4330	Supervision		3	0	3		
PRN	4354	Printing Estimating II		2	2	3	MGT	4303	Labor Law		3	0	3		
		Regular Elective		3	0	3	PRN	5207	Co-op Lab II OR		0	20	2		
PRN	5206	Co-op Lab I OR		0	20	2	PRN	5704	Printing Applications II		2	15	7		
PRN	5700	Printing Applications I		2	15	<u>7</u>			Elective-General Education		3	0	<u>3</u>		
						14									14
						19							Total CR. HRS. with Co-op Option		
													Total CR. HRS. with Printing Applications Option		
													19		
RECOMMENDED GENERAL EDUCATION ELECTIVES															
ART	1307	Basic Photography		2	2	3	SPH	1300	Oral Communications		3	0	3		
ART	1324	Design I		0	6	3	SPH	2304	Public Speaking		3	0	3		
ECO	2304	Economics I		3	0	3	PSY	2504	General Psychology		5	0	5		
JOU	1300	Practical Journalism		2	3	3									
RECOMMENDED REGULAR ELECTIVES															
ACC	1604	Principles of Accounting I		5	2	6	EDP	3300	Introduction to Computer Concepts		3	0	3		
BUS	2305	Business Law II		3	0	3	FIN	4334	Business Finance I		3	0	3		
BUS	3300	Applied Psychology		3	0	3	PRN	4390	Individual Study		3	0	3		
MKT	3324	Marketing		3	0	3	PRN	5313	Typesetting		2	2	3		
MKT	4322	Purchasing		3	0	3	PRN	5316	Production Screen Printing		2	2	3		
BUS	2306	Business Law III		3	0	3	SEC	3404	Typing I		3	2	4		
BUS	3304	Business Statistics		3	0	3	VCO	3304	Photography I		2	2	3		
TRN	3451	Traffic Management		3	2	4	VCO	4304	Typography & Lettering I		2	2	3		
MGT	4333	Production Planning & Control		3	0	3									

HORTICULTURE — DIPLOMA PROGRAM

CURRICULUM DESCRIPTION

The purpose of this program is to prepare the student for entry level employment in various horticultural businesses such as nurseries, grounds maintenance businesses and landscape firms. The student is trained by the use of classroom demonstrations, laboratory projects and cooperative work experiences. This program emphasizes practical "hands-on" training in the following areas:

Plant Materials
Nursery Procedures
Landscape Gardening

Grounds Maintenance
Plant Propagation
Turf Management

A student completing this program should be able to fill the following positions:

Nursery Worker
Nursery and Garden Center Salesperson
Grounds Maintenance Assistant
Landscape Worker

Private Gardener
Greenhouse Salesperson
Groundskeeper

Persons completing this program would be awarded a diploma in Horticulture.

Suggested Course Sequence of Required Courses For Horticulture-Diploma Program

COURSE TITLE			HRS	PER	WK	QTR
			CLS	LAB	CLN	CR
FIRST QUARTER						
BIO	1501	General Botany	3	4	0	5
HOR	3503	Nursery Technology	3	4	0	5
HOR	3400	Landscape Plants I	3	2	0	4
HOR	3404	Landscape Plants II	3	2	0	4
			12	12	0	18
SECOND QUARTER						
COM	1304	Introduction to Communication	3	0	0	3
HED	1204	First Aid I	1	2	0	2
HOR	3504	Grounds Maintenance I	3	4	0	5
HOR	3302	Landscape Graphics & Measurements	2	2	0	3
PME	5211	Small Engine Repair I	1	3	0	2
			10	11	0	15
THIRD QUARTER						
FIN	3314	Business Mathematics I	3	0	0	3
SPH	1300	Oral Communications	3	0	0	3
HOR	3505	Landscape Gardening	3	4	0	5
HOR	3410	Turf Management	2	4	0	4
HOR	3405	Grounds Maintenance II	2	4	0	4
			13	12	0	19
FOURTH QUARTER						
HOR	3205	Cooperative Work Experience	0	0	20	2
HOR	4200	Co-Op Seminar	2	0	0	2
HOR	3401	Plant Propagation I	2	4	0	4
		Approved Electives*	3-5	0-8	0	4-7
			7-9	4-12	20	12-15
TOTAL						64-67

*Elective must be approved by Program Director or Program Counselor and should be selected from:

ACC	3500	Small Business Accounting	PME	5214	Small Engine Overhaul
BIO	1500	Biological Science	PME	5220	Chain Saw Repair
BIO	2300	Genetics	HOR	3202	Home & Yard Horticulture
BIO	2500	Introduction to Entomology	HOR	3307	Landscape Your Own Home
BIO	2504	Selected Topics in Biology	HOR	3312	Indoor Plants
BUS	1400	Introduction to Business	HOR	4411	Greenhouse Horticulture
CHM	1500	Introductory Chemistry I			

HORTICULTURE TECHNOLOGY

(Subject to State Board Approval)

CURRICULUM DESCRIPTION

The Horticulture Technology curriculum encompasses the study and practical application of many varied subjects in the field of horticulture. The curriculum consists of identifying and selecting plant materials; propagating, planting, and growing plants; designing basic landscapes and planting materials at the appropriate places and in the correct manner; properly maintaining plant materials; and managing the nursery, greenhouse, and garden center. In addition, skills are developed in designing and building planters, walks, patios, fences, and other landscape features. The curriculum is designed to provide

students with the knowledge, skills, and attitudes that are necessary for independent, creative thinking essential to success in this field.

Various types of employers hire the graduates of this curriculum. Examples are nurseries, greenhouse operations, garden centers, landscape contractors, landscape maintenance companies, and municipal governmental agencies. The employee is usually required to carry out various responsibilities, depending upon the needs of the employer.

CAREER OPPORTUNITIES

Major jobs for which this Curriculum is Designed to Prepare include:

Entry Level Jobs

- Garden Center Worker
- Greenhouse Worker
- Groundskeeper
- Landscape Construction Worker
- Landscape Worker
- Lawn-Service Worker
- Nursery Worker
- Plant Propagator
- Salesperson, Horticultural and Nursery Products
- Tree Pruner

Advanced Level Jobs

- Greenhouse Superintendent
- Horticultural-Specialty Grower, Field
- Horticultural-Specialty Grower, Inside
- Landscape Drafter
- Landscape Gardener
- Nursery Manager

Persons completing this program would be awarded an Associate in Applied Science Degree in Horticulture Technology.

Suggested Course Sequence of Required Courses For Horticulture Technology

			COURSE TITLE				HRS	PER	WK	QTR	
							CLS	LAB	CO-OP	HRS	
										CR	
FIRST QUARTER											
BIO	1501	General Botany					3	4	0	5	
HOR	3503	Nursery Technology					3	4	0	5	
HOR	3400	Landscape Plants I: Woody					3	2	0	4	
HOR	3404	Landscape Plants II: Woody & Herbaceous					3	2	0	4	
							12	12	0	18	
SECOND QUARTER											
COM	1304	Introduction to Communication					3	0	0	3	
HED	1204	First Aid I					1	2	0	2	
HOR	3504	Grounds Maintenance I					3	4	0	5	
HOR	3302	Landscape Graphics & Measurements					2	2	0	3	
PME	5211	Small Engine Repair I					1	3	0	2	
							10	11	0	15	
THIRD QUARTER											
FIN	3314	Business Mathematics I					3	0	0	3	
SPH	1300	Oral Communications					3	0	0	3	
HOR	3505	Landscape Gardening					3	4	0	5	
HOR	3410	Turf Management					2	4	0	4	
HOR	3405	Grounds Maintenance II					2	4	0	4	
							13	12	0	19	
FOURTH QUARTER											
BIO	2500	Introduction to Entomology					3	4	0	5	
HOR	3401	Plant Propagation I					2	4	0	4	
HOR	3312	Indoor Plants					2	2	0	3	
		Approved Elective*					3	0-4	0	3-5	
							10	10-14	0	15-17	
FIFTH QUARTER											
COM	3305	Communications II					3	0	0	3	
CHM	1500	Introductory Chemistry I					3	4	0	5	
HOR	4300	Arboriculture					2	2	0	3	
BUS	3300	Applied Psychology					3	0	0	3	
							11	6	0	14-16	
SIXTH QUARTER											
ACC	3500	Small Business Accounting					5	0	0	5	
COM	3306	Communications III					3	0	0	3	
		General Education Elective**					3-5	0	0	3-5	
HOR	4411	Greenhouse Horticulture					2	4	0	4	
HOR	4100	Horticulture Seminar					1	0	0	1	
							14-16	4	0	16-18	
SEVENTH QUARTER											
HOR	4404	Plant Propagation II					2	4	0	4	
HOR	4200	Co-Op Seminar					2	0	0	2	
HOR	3205	Cooperative Work Experience (co-op)					0	0	20	2	
		Open Elective***					3	0-4	0	3-5	
							7	4-8	20	11-13	
Total											108-114

*Elective must be approved by Program Director or Program Counselor and should be selected from:

BIO	1500	Biological Science	(3-4) 5
BIO	2300	Genetics	(3-0) 3
BIO	2504	Selected Topics in Biology	(3-4) 5
BUS	1400	Introduction to Business	(3-2) 4
MGT	3303	Small Business Management	(3-0) 3

**General Education Elective must be selected from the areas of Communications, Social Science, and/or Humanities.

***Open Elective may be selected from any technical or college transfer course.

HOSPITAL WARD CLERK

The Hospital Ward Clerk works at nursing stations in hospitals and is responsible for non-nursing functions. While this person is not involved in direct nursing service activities he/she is a vital member of the nursing team and releases the nursing staff from time consuming paper work permitting more time to be spent by nurses in patient care.

DESCRIPTION OF CURRICULUM

Upon successful completion of the program a certificate will be awarded.

Duties include: Clerical responsibilities in (1) unit management and obtaining services outside the unit; (2) maintaining the medical records; (3) admissions, transfers and discharges of patients; (4) requisitioning laboratory tests, diagnostic procedures and special therapies.

The course of study for the program is eleven weeks (one quarter) in length and provides both classroom and supervised hospital experience.

Suggested Sequence of Required Courses For Hospital Ward Clerk

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CLN	HRS CR
FIRST QUARTER						
HWC	5400	Orientation to Hospital Ward Clerk	3	2	0	4
HWC	5500	Hospital Ward Clerk Management	2	6	0	5
HWC	5401	Clinical Experience	0	0	12	4
MED	3304	Medical Terminology & Vocabulary I	3	0	0	3
SPH	1300	Oral Communications	3	0	0	3

HOTEL/RESTAURANT MANAGEMENT

The hospitality industry represents one of the fastest growing industries in the nation. With this tremendous growth, many career positions offer a future of challenge and personal satisfaction. This program is designed to equip the student with a strong basic knowledge of what transpires behind the gleaming facades of hotels and behind the crystal sparkle of the romantic atmosphere of restaurants.

This program is designed to assist the student entering the field to adapt to its problems and become a part of the many employees who are dedicated to serving the public and to making the hotel and restaurant industry a better field in which to work. Careers are available in hotels, motels, country clubs, cruise ships, and restaurants. Upon receiving an Associate in Applied Science degree in HRM, the student will be qualified to fill positions such as: General Manager, Assistant Manager, Food and Beverage Manager, Sales Director, Convention Manager, Executive Housekeeper, Shift Supervisor, Front Desk Personnel, and many other varied and interesting positions.

Suggested Sequence of Required Courses For Hotel/Restaurant Management

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CR	HRS
FIRST QUARTER						
HRM	3300	Introduction to Hotel/Restaurant Management	3	0		3
ACC	1604	Principles of Accounting I	5	2		6
COM	1304	Introduction to Communication	3	0		3
HRM	3104	Speaker Seminar I	1	0		1
FIN	3314	Business Mathematics I	3	0		3
			15	2		16
SECOND QUARTER						
HRM	3105	Speaker Seminar II	1	0		1
ACC	3434	Hotel/Restaurant Accounting	3	2		4
COM	3305	Communications II	3	0		3
HED	1204	First Aid I	1	2		2
MGT	4332	Personnel Management I	3	0		3
HRM	4310	Restaurant Service Management	1	6		3
			12	10		16
THIRD QUARTER						
BUS	3300	Applied Psychology	3	0		3
FSO	3504	Food Preparation I	2	9		5

COURSE TITLE			HOURS/WEEK		QTR
			CLS	LAB	HRS
SPH	1300	Oral Communications	3	0	3
HRM	3301	Financial and Legal Aspects of Innkeeping	3	0	3
			11	9	14
FOURTH QUARTER					
HRM	4804	Work Experience Seminar I	3	15	8
FSO	4304	Food & Labor Cost Controls	3	0	3
HRM	4300	Hotel/Restaurant Marketing	3	0	3
HRM	4301	Housekeeping Procedures	3	0	3
			12	15	17
FIFTH QUARTER					
HRM	4805	Work Experience Seminar II	3	15	8
BUS	2304	Business Law I	3	0	3
EDP	3405	Microcomputer Programming -- Basic	3	2	4
		Elective	3	0	3
			12	17	18
SIXTH QUARTER					
HRM	4806	Work Experience Seminar III	3	15	8
HRM	4302	HRM Related Problems	3	0	3
INS	3341	Property & Casualty Insurance*	3	0	3
		Elective	3	0	3
			12	15	17

*INS 3340 Principles of Risk and Insurance may be taken in lieu of INS 3341

HUMAN SERVICES ASSOCIATE

ACTIVITY THERAPY INTERPRETER TRAINING

CHILD DEVELOPMENT CASEWORK AND OUTREACH

The Human Services Associate is a paraprofessional working in a variety of social, community and educational services. The associate uses the knowledge and understanding of human behavior, group dynamics, and psychosocial processes, coupled with the use of appropriate helping skills, to work effectively with people.

DESCRIPTION OF CURRICULA

The Department of Human Services offers four major options of study for the Human Services Associate. Each curriculum, **Activity Therapy**, **Casework and Outreach**, **Child Development** and **Interpreter Training** offers students a unique two-year program to enable them to work with specialized client populations. Clinical internships in a variety of community agencies enable students to gain specialized experience to parallel the classroom work.

CHILD DEVELOPMENT

With the expansion of child care facilities, public and private child care centers desire qualified personnel to aid in the effective care of children. The Child Development Program of Human Services trains the student in the knowledge and skills necessary to work well with children.

Suggested Sequence of Required Courses For Child Development Option

COURSE TITLE			HOURS/WEEK		QTR
			CLS	LAB	HRS
FIRST QUARTER					
HSA	3501	Introduction to HSA	5	0	5
COM	1304	Introduction to Communication	3	0	3
HSA	5501	Child Development	3	0	6
HSA	3311	Materials & Activities For the Young Child	3	0	3
			14	0	16
SECOND QUARTER					
HSA	3502	Interpersonal Relationships	5	0	5
com	3305	Communications II	3	0	3
HSA	5500	Practical Problems of Child Care I	3	0	6
HSA	4510	Health & Safety of Young Child	4	0	5
			15	0	18
THIRD QUARTER					
HSA	3524	Group Skills	3	0	6
COM	3306	Communications III	3	0	3
HSA	4614	Practical Problems of Child Care II	2	0	6
HSA	3310	Exceptional Child	3	0	3
			11	0	17

FOURTH QUARTER

HSA	4310	Adult/Child Relations	3	0	0	3
HSA	3503	Intruduction to Day Core Administration	3	0	6	5
PSY	2505	Human Development	5	0	0	5
PSY	2504	General Psychology	5	0	0	5
			16	0	6	18

FIFTH QUARTER

HSA	3312	Education far Young Child	3	0	0	3
HSA	4500	Working With Porents	3	0	6	5
SOC	2514	Introduction to Saciology				
		OR				
SOC	3501	Social Reolities I	5	0	0	5
			11	0	6	13

SIXTH QUARTER

HSA	4608	Seminor	2	0	12	6
SOC	2515	Social Problems				
		OR				
SOC	3502	Sociol Realities II	5	0	0	5
HSA	3322	Humon Sexuolity in the Helping Skills	3	0	0	3
			10	0	12	14

The Child Development Program also offers on **Early Childhood Aide Certificate Program** to quolify a graduate os a teacher aide. The Aide Certificote Program may be used os credit toward the child development degree providing an appor-tunity for coreer mobility ond upgrodng.

Required Courses For Early Childhaad Aide Certificote

COURSE TITLE			HRS/WK			QTR
			CLS	LAB	CR	HRS
COM	5500	Communicotions Skills	5	0		5
HSA	3311	Materials ond Activities for the Young Child	3	0		3
HSA	5200	Humon Relations	2	0		2
HSA	5500	Proctical Problems of Child Care I	3	6		5
HSA	5501	Child Development	3	6		5
			16	12		20

CDA TRAINING

In addition to the regular curriculum, the **Child Development Program** is oble to provide training toward the Child Development Associate Credential, a competency-based credential. The troining package, entitled CDA I-IV, is designed to provide twenty-four weekly hours of individualized assistance to groups of people preparing far the official credentialing procedure established by the Office of Child Development in Woshington. For additional infarmotion contoct the Program Director of Child Development.

CASEWORK AND OUTREACH

A variety of cammunity agencies ore utilizing paraprofessionals in o number of positions. The Cosework and Outreoch Associate works primorily with clients in ossessing their needs and helping them to ottoin the services required to fulfill those needs. The Associate may work in social work and welfore facilities, schools, personnel offices, hospitals, neighborhood centers, and special service centers.

Suggested Sequence of Required Courses Far Casework and Outreoch Option

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CLN	HRS
FIRST QUARTER						
HSA	3501	Intruduction to HSA	5	0	0	5
COM	1304	Introduction to Communication	3	0	0	3
PSY	2504	General Psychology	5	0	0	5
HED	1204	First Aid I	1	2	0	2
			14	2	0	15
SECOND QUARTER						
HSA	3502	Interpersonal Relationships	5	0	0	5
COM	3305	Communicotions II	3	0	0	3
SEC	3404	Typing I	3	2	0	4
BIO	3600	Bosic Health Science	5	2	0	6
			16	4	0	18
THIRD QUARTER						
HSA	3524	Graup Skills	3	0	6	5
COM	3306	Communicotions III	3	0	0	3
HSA	4511	Introduction to Social Welfore	5	0	0	5
SOC	2514	Intruduction to Sociology				
		OR				
SOC	3501	Sociol Realities I	5	0	0	5
			16	0	6	18

COURSE TITLE			HOURS/WEEK			QTR HRS
			CLS	LAB	CLN	CR
FOURTH QUARTER						
HSA	3600	Community Organization and Casework Preparation	3	0	9	6
HSA	4301	Helping Relationship: Theory	3	0	0	3
SOC	1500	Sociology of the Family	5	0	0	5
MED	3304	Medical Terminology & Vocabulary I	3	0	0	3
			14	0	9	17
FIFTH QUARTER						
HSA	3604	Helping Relationship: Technique	3	0	9	6
PSY	2505	Human Development	5	0	0	5
SOC	2515	Social Problems				
		OR				
SOC	3502	Social Realities II	5	0	0	5
			13	0	9	16
SIXTH QUARTER						
HSA	4608	Seminar	2	0	12	6
HSA	3421	Helping & Behavioral Stress	4	0	0	4
HSA	3322	Human Sexuality in the Helping Skills	3	0	0	3
PSY	2514	Abnormal Psychology	5	0	0	5
			14	0	12	18

ACTIVITY THERAPY

The Activity Therapy Program provides the graduate with the opportunity to assist in implementing recreational activities which meet the physical, social, emotional, and intellectual needs of individuals to enable them to function independently in their environment. The Activity Therapy Aide may choose to work with special populations, older adults, children, or the deaf, in a variety of settings such as hospitals, retardation centers, nursing homes, city recreation facilities, and private agencies.

Suggested Sequence of Required Courses for Activity Therapy Option

COURSE TITLE			HOURS/WEEK			QTR HRS
			CLS	LAB	CLN	CR
FIRST QUARTER						
HSA	3501	Intradtuction to HSA	5	0	0	5
COM	1304	Intradtuction to Cammunication	3	0	0	3
PSY	2504	General Psychalogy	5	0	0	5
HED	1204	First Aid I	1	2	0	2
			14	2	0	15
SECOND QUARTER						
HSA	3502	Interpersonal Relationships	5	0	0	5
COM	3305	Cammunications II	3	0	0	3
SOC	2514	Intradtuction to Socialogy				
		OR				
SOC	3501	Social Realities I	5	0	0	5
MED	3304	Medical Terminalogy & Vacabulary I	3	0	0	3
			16	0	0	16
THIRD QUARTER						
PSY	2514	Abnormal Psychalogy	5	0	0	5
HSA	3524	Graup Skills	3	0	6	5
COM	3306	Cammunications III	3	0	0	3
HSA	4501	Intradtuction to Activity Therapy	3	0	6	5
			14	0	12	18
FOURTH QUARTER						
HSA	3310	Exceptional Child	3	0	0	3
HSA	4503	Activity Therapy Program Planning	3	0	6	5
BIO	3600	Basic Health Science	5	2	0	6
HSA	4313	Activity Therapy with Special Populations	3	0	0	3
			14	2	6	17
FIFTH QUARTER						
HSA	4312	Activity Therapy with the Physically Disabled	3	0	0	3
HSA	4502	Administration of Activity Therapy	3	0	6	5
PSY	2524	Mental Retardation	5	0	0	5
		Elective (to be approved by advisor)	3	0	0	3
			14	0	6	16
SIXTH QUARTER						
HSA	4608	Seminar	2	0	12	6
HSA	3322	Human Sexuality in the Helping Skills	3	0	0	3
HSA	4311	Activity Therapy with Older Adults	3	0	0	3
		Elective (to be approved by advisor)	3	0	0	3
			11	0	12	15

INTERPRETER TRAINING

The Interpreter Training Option is affiliated with the National Interpreter Training Consortium and follows the guidelines of the Registry of Interpreters for the Deaf.

The primary purpose of the curriculum is to increase the number of qualified interpreters by upgrading the skills of persons who are now acting as interpreters and train people who have had no previous experience as interpreters for the deaf.

Suggested Sequence of Required Courses For Interpreter Training Option

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CLN	HRS CR
FIRST QUARTER						
HSA	4304	Orientation to Deafness	3	0	0	3
HSA	3501	Introduction to HSA	5	0	0	5
HSA	3402	Sign Language I	3	2	0	4
COM	1304	Introduction to Communication	3	0	0	3
		Elective	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
			16	2	0	17
SECOND QUARTER						
HSA	3502	Interpersonal Relationships	5	0	0	5
HSA	3404	Sign Language II	3	2	0	4
HSA	4300	Hearing and Deafness	3	0	0	3
COM	3305	Communications II	3	0	0	3
HSA		Elective	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
			16	2	0	17
THIRD QUARTER						
HSA	3514	Introduction to Interpreting	3	6	0	5
HSA	3524	Group Skills	3	6	0	5
HSA	3405	Sign Language III	3	2	0	4
HSA		Elective	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
		Elective	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
			14	14	0	19
FOURTH QUARTER						
HSA	3515	Interpreting II	3	6	0	5
PSY	2504	General Psychology	5	0	0	5
COM	3306	Communications III	3	0	0	3
HSA		Elective	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
			13	6	0	15
FIFTH QUARTER						
HSA	3517	Reverse Interpreting I	3	6	0	5
HSA	3516	Interpreting III	3	6	0	5
SOC	2514	Introduction to Sociology				
		OR				
SOC	3501	Social Realities I	5	0	0	5
		Elective	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
			14	12	0	18
SIXTH QUARTER						
HSA	4608	Seminar	2	0	12	6
		Elective	<u>9</u>	<u>0</u>	<u>0</u>	<u>9</u>
			11	0	12	15

NOTE: Students in any of the four Programs may decide to elect additional courses offered in the Human Services Department (i.e., Gerontology, Sign Language, etc.). Each student will work with the Program Director in determining what courses might be added or substituted in the selected curriculum.

IN-SERVICE TRAINING

The Department of Human Services offers to the community a variety of curriculum and extension courses from its regular on-campus curricula. Such courses as **The Helping Relationship, Child Development, Gerontology, and Sign Language**, just to name a few, can be brought to a community agency and tailored for the agency's particular needs. An agency interested in a course from the various Human Services curricula should contact the appropriate Program Director.

SPECIALIZED PROGRAMS OF HUMAN SERVICES

The Human Services Department offers several specialized programs for particular populations in the community:

Special Population Extension Classes

The Special Population Program offers continuing education to mentally retarded adults. It offers both training toward an appropriate job and skills to help the retarded individual lead a more normal, self expressive life.

The personal adjustment classes are geared toward the personal and social skills a person needs in order to be more employable, such as: a good attitude toward work, good work habits, ability to get along with others, personal grooming, etc.

The job training classes such as kitchen management, industrial sewing, and woodworking teach a trade that some of the students will be able to utilize in competitive employment, others to earn a living within a workshop setting.

Craft and recreation classes are offered when possible. These classes help the students to more appropriately utilize their leisure time.

The classes are held off campus in community agencies.

Older Adult Program

The primary goal of the Older Adult Program is to provide direct educational services to older adults in Mecklenburg and Union counties. Older adults must be over age sixty-five in order to attend classes without paying tuition. Those under age sixty-five may request assistance from the Older Adult Program Director. Older students may attend classes on the main campus or in any of the off campus locations within the community.

Special classes may be set up at churches or community centers if twenty (20) or more people desire a class.

Job Readiness Series

The Job Readiness Series is a program for students who learn at a slower rate than the average college student. The Series offers college level training in career planning. The primary objectives of the one year program are: job awareness, improved self-esteem, and positive attitudes toward working.

INDUSTRIAL SAFETY, SECURITY AND HEALTH MANAGEMENT

Industrial Safety, Security and Health Management education is rapidly emerging as a separate and distinct field of study. It is developing concurrently with the related occupational fields of fire science, law enforcement, corrections parole and probation, and other similar programs. The rising crime rate and the attention focused around the protection of workers by the implementation of the Occupational Safety and Health Act, Toxic Substances Control Act, Consumer Products Safety Act and numerous other federal and state laws have generated an unprecedented rise in the demand for fully qualified personnel in this field. The curriculum centers around only one of the three fields. In the future, persons will be needed who are trained in all three of these compatible and often overlapping disciplines. This would provide industry, government and employers at all levels with a ready pool of individuals capable of heading a safety, security and health program. It is estimated that less than 10 percent of potential employers of this group have adequate programs at the present. As government regulations are more stringently enforced, an ever increasing number of qualified employees for industrial safety, security and health management will be required.

DESCRIPTION OF CURRICULUM

This curriculum is intended to equip those individuals who would be employed or involved in the fields of industrial safety, security and health management to meet the needs of many different situations. It will provide the individual with a well-rounded educational background in preparation for a professional career or further study. Completion of the recommended curriculum will meet the requirements for the degree of Associate in Applied Science. Classes are scheduled to provide equal opportunity for students to attend day or evening sessions.

Suggested Sequence of Required Courses For Industrial Safety, Security and Health Management

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	HRS					HRS/WK	HRS	
			CLS	LAB	CR				CLS	LAB	CR
FIRST QUARTER											
SSH	3501	Intraduction ta Principles of Safety	4	2	5	SSH	3504	Occup. Safety & Health I	4	2	5
SSH	3500	Intra. ta Loss Prevention	5	0	5	MAT	3501	Mathematics far Public Safe-ty	5	0	5
FIP	3303	Fire Protection I	3	0	3	ELN	3300	Electrical Installation & Safety	3	0	3
COM	1304	Intra. ta Communication	3	0	3	COM	3305	Communciations II			
			15	2	16		OR				
						COM	1305	English Campositon II	3	0	3
									15	2	16
THIRD QUARTER											
SSH	4504	Security Problems & Practices I	4	2	5	FOURTH QUARTER					
SSH	3301	Principles of Industrial Safety, Security & Health Mgmt.	3	0	3	SSH	3505	Occupational Safety & Health II	4	2	5
FIP	3400	Fire Protective Systems	3	2	4	SSH	4500	Organ. & Admin. af Safety, Health & Loss Prevent. Prag.	4	2	5
PSC	4520	Public Relations	5	0	5	PSC	4505	Criminal Investigation Elective	5	0	5
			15	4	17				3	0	3
									16	4	18
FIFTH QUARTER											
SSH	4505	Security Problems & Practices II	4	2	5	SIXTH QUARTER					
PSC	3510	Criminal Law	5	0	5	SSH	4510	Principles af Interviewing & Interragation	5	0	5
SSH	4501	Industrial Hygiene & Tax-icalagy	4	2	5	SOC	2514	Intraduction ta Socialagy	5	0	5
COM	3306	Communciations III				PSC	4503	Law Enforcement Psychology	5	0	5
	OR					SSH	4304	Special Problems in Industrial Safety	2	2	3
COM	1306	English Campositon III	3	0	3				17	2	18
			16	4	18						

Recommended Electives: Any course in the following programs: (PSC) Law Enforcement, (FIP) Fire Science, and (CSC) Correctional Science.

ADDITIONAL APPROVED LIST OF ELECTIVES

SSH	3302	Hotel & Motel Security	MAT	2514	Statistics I
SSH	3304	Access Controls & Loss Prevention	BUS	2304	Business Law I
SSH	3503	Retail Security	BUS	2305	Business Law II
PSC	4310	Self Defense & Weaponry	HED	1201	Special Health Problems
CHM	1504	General Chemistry I	HED	1204	First Aid I
BIO	1500	Biological Science	HED	1205	First Aid II
SEC	3404	Typing I	HED	1100	Health Education I
EDP	3300	Introduction to Computer Concepts	PHY	2504	General Physics I: Mechanics
VCO	3304	Photography I	PHY	1404	Intro. to Physics I: Basic Mechanics
BUS	1400	Introduction to Business			

LAW ENFORCEMENT

The law enforcement profession can no longer rely on its past methodology in training and education. Low enforcement officers must have an understanding of the society they serve. Their deep involvement with the entire administration of justice necessitates an understanding of the behavior, attitudes and motivations of groups and individuals.

Law enforcement officers must be proficient in their daily work area; they must develop a competency in investigative techniques, patrol functions, court procedures, police management, crime scene techniques and the mechanics of arrest, search and seizure. Above all, low enforcement officers must understand and practice the meaning and value of ethical concepts relating to honesty, integrity and tolerance.

DESCRIPTION OF CURRICULUM

This curriculum will assist the student in acquiring the necessary training and education required of professional law enforcement officers. The approach is both theoretical and practical with course work covering areas of practical, theoretical and technical application of law enforcement techniques. The courses in this curriculum are designed for low enforcement officers, prospective law enforcement officers, and citizens interested in the etiologies and results of crime and the police mission. Classes are scheduled so that they can be taken by low enforcement officers during their off-duty periods. The degree of Associate in Applied Science in Law Enforcement will be awarded upon successful completion of this curriculum.

Suggested Sequence of Required Courses for Law Enforcement

COURSE TITLE			HRS/WK	QTR		COURSE TITLE			HRS/WK	QTR	
			CLS	LAB	CR				CLS	LAB	CR
FIRST QUARTER						SECOND QUARTER					
COM	1304	Intro. to Communication	3	0	3	COM	3305	Communications II			
PSC	3500	Intro. to Criminology	5	0	5			OR			
SSH	3500	Intra. to Lass Prevention	5	0	5	COM	1305	English Composition II	3	0	3
SPH	1300	Oral Communication	3	0	3	PSC	3501	Intro. to Low Enforcement	5	0	5
			16	0	16	PSC	4511	Administrotion of Justice	5	0	5
						PSC	3514	Police Organization & Administrotion	5	0	5
									18	0	18
THIRD QUARTER						FOURTH QUARTER					
COM	3306	Communications III				PSC	4501	Constitutional Low	5	0	5
		OR				PSC	4505	Criminal Investigation	5	0	5
COM	1306	English Composition III	3	0	3	PSC	4515	Police Management	5	0	5
PSC	3504	Crime Scene Tech.	4	2	5				15	0	15
PSC	3510	Criminal Law	5	0	5						
PSC	4510	Palice Operotions	4	2	5						
			16	4	18						
FIFTH QUARTER						SIXTH QUARTER					
PSC	4520	Public Relations	5	0	5	PSC	4503	Low Enforcement Psychology	5	0	5
PSC	4504	Criminal Procedures & Rules of Evidence	5	0	5	PSC	4310	Self Defense & Weaponry	1	4	3
SSH	4510	Principles of Interviewing & Interrogation	5	0	5	CSC	3504	Juvenile Justice System	5	0	5
			15	0	15	PSC		Speciol. Training Elective	3	0	3
									14	4	16

MACHINIST

MACHINE TOOL TRADES

Modern manufacturing procedures require the service of a well-trained machinist to operate and maintain machine tools at peak efficiency. This highly-skilled person transforms a piece of metal into an intricate part meeting precise requirements. Wages are high, and for the person willing to work, the rewards of learning the machine tool trades are unlimited.

DESCRIPTION OF CURRICULUM

The Machinist curriculum of Central Piedmont Community College is designed to provide an opportunity to gain entry level employment in this most rewarding occupation.

Emphasis is placed on the basic operations which can be performed on engine lathes, milling, and grinding machines.

Instruction in layout procedures and the use of hand tools is also provided. Possessing those fundamental skills the student in the machine tool trades is able to become a valued member of this growing industry. A diploma is awarded upon completion of the program.

Suggested Sequence of Required Courses for Machinist (Machine Tool Trades)

FIRST QUARTER					QTR			SECOND QUARTER					QTR		
					HRS/WK	HRS							HRS/WK	HRS	
COURSE TITLE					CLS	LAB	CR	COURSE TITLE					CLS	LAB	CR
MAC	5200	Precision Instrument Reading			2	0	2	MAC	5313	Layout, Hand Tool, and Drill Press Procedures			1	6	3
MAC	5311	Basic Lathe Operations			1	6	3	MAC	5424	Grinding Machine Operations			2	6	4
MAC	5422	Basic Milling Operations			2	6	4	DFT	5304	Blueprint Reading for Machinists			3	0	3
DFT	5300	Basic Blueprint Reading			3	0	3	MAT	5305	Shop Mathematics II			3	0	3
MAT	5304	Shop Mathematics I			3	0	3	MEC	5215	Heat Treatment of Metals II			1	3	2
MEC	5214	Heat Treatment of Metals I			1	3	2								15
							17								
THIRD QUARTER								FOURTH QUARTER							
MAC	5315	General Machining and Maintenance			1	6	3	MAC	5307	Machine Tool Application I			0	9	3
MAC	5426	Production Machine Tech.			2	6	4	MAC	5308	Machine Tool Application II			0	9	3
PHY	5304	Shop Science I			2	2	3	PHY	5305	Shop Science II			2	2	3
WLD	5110	Basic Oxyacetylene Welding			0	3	1	HSA	5200	Human Relations			2	0	2
COM	5500	Communications Skills Elective			5	0	5	MGT	5200	Shop Management Elective			2	0	2
							3								3
							19								16
RECOMMENDED ELECTIVES															
DFT	3404	Technical Drafting I			2	6	4	PME	5214	Small Engine Overhaul			1	3	2
HED	1204	First Aid I			1	2	2	WLD	5120	Basic Electric Arc Welding			0	3	1
MAC	5300	Introduction to Numerical Control Programming			3	0	3	WLD	5140	Basic Gas Metal Arc Welding			0	3	1
MAT	3504	Technical Mathematics I			5	0	5								

MECHANICAL ENGINEERING TECHNOLOGY

DRAFTING AND DESIGN OPTION

There are more than fifty-two different types of operations in which a graduate of either the Drafting and Design option or the Manufacturing option of Mechanical Engineering Technology may be employed. Many of these occupations are closely related to management in industry and can lead to rewarding careers.

Mechanical Engineering Technicians with a Drafting and Design option are well trained in drafting, the language of industry. They will use their knowledge to produce plans and specifications which describe the process and procedures by which products are made and the materials from which they are made.

Mechanical Engineering Technicians with a Manufacturing Option are skilled in the production efficiency areas of industry. They will work in manufacturing areas such as quality control, inventory and materials control, process planning, time and motion study, materials handling and cost estimating.

DESCRIPTION OF CURRICULUM

The student in either the Drafting and Design option or the Manufacturing option of Mechanical Engineering Technology receives a well-balanced program. The instruction, consisting of both laboratory and classroom experiences, includes courses in drafting, machine processes, hydraulics and pneumatics, applied mechanics, strength of materials, metallurgy and thermodynamics.

MANUFACTURING OPTION

Suggested Sequence of Required Courses For Mechanical Engineering Technology with Drafting and Design Option and Manufacturing Option

FIRST QUARTER					QTR			SECOND QUARTER					QTR		
					HRS/WK	HRS							HRS/WK	HRS	
COURSE TITLE					CLS	LAB	CR	COURSE TITLE					CLS	LAB	CR
COM	1304	Intro. to Communication			3	0	3	COM	3305	Communications II			3	0	3
MAT	3504	Technical Mathematics I			5	0	5	MAT	3505	Technical Mathematics II			5	0	5
DFT	3404	Technical Drafting I			2	6	4	PHY	1404	Physics I: Basic Mechanics			3	2	4
MEC	3304	Machine Processes I			2	3	3	DFT	3405	Technical Drafting II			2	6	4
					12	9	15	MEC	3305	Machine Processes II			2	3	3
													15	11	19
THIRD QUARTER								FOURTH QUARTER							
COM	3306	Communications III			3	0	3	SPH	1300	Oral Communications			3	0	3
PHY	1405	Physics II: Elastic & Thermal Properties of Matter			3	2	4	PHY	1406	Physics III: Electricity and Magnetism			3	2	4
MEC	4508	Applied Mechanics			3	6	5	CIV	3524	Strength of Materials			3	6	5
DFT	3406	Descriptive Geometry			2	6	4	MEC	4414	Physical Metallurgy I			3	3	4
		Technical Elective**			3	0	3			General Education Elective*			3	0	3
					14	14	19						15	11	19

COURSE TITLE				HRS/WK	QTR	
				CLS	LAB	CR
FIFTH QUARTER						
MEC	4434	Hydraulics & Pneumatics		2	6	4
MEC	4415	Physical Metallurgy II		3	3	4
MEC	4304	Compound Angles		2	3	3
MEC	4324	Thermodynamics		2	3	3
		General Education Elective*		3	0	3
				12	15	17

COURSE TITLE				HRS/WK	QTR	
				CLS	LAB	CR
DRAFTING AND DESIGN OPTION						
SIXTH QUARTER						
MEC	4604	Machine Design		3	6	6
MEC	4405	Mechanisms		2	6	4
MEC	4404	Die Design		2	6	4
		Technical Elective**		3	0	3
				10	18	17

COURSE TITLE				HRS/WK	QTR	
				CLS	LAB	CR
MANUFACTURING OPTION						
SIXTH QUARTER						
ISC	4405	Process Planning		2	6	4
ISC	4400	Time and Motion Study		2	6	4
ISC	4404	Plant Layout & Material Handling		2	6	4
ISC	4304	Production Planning		2	3	3
ISC	4314	Inspection & Quality Control		2	3	3
				10	24	18

*General Education Electives must be chosen from the areas of Communications, Social Science, and/or Humanities (Art, Drama, Music, Literature, Language and Philosophy.)

Recommended General Education Electives:

BUS	3300	Applied Psychology	ECO	2305	Economics II (micro)
SPH	2304	Public Speaking	BUS	1400	Introduction to Business
ECO	2304	Economics I (macro)	MGT	3303	Small Business Management

**Technical Electives

Recommended for all students in Mechanical Engineering Technology:

MAT	3506	Technical Mathematics III	EDP	1404	Computer Concepts and Fortran Programming I
ELN	4525	Electrical Machines I	EDP	3405	Micracomputer Programming — Basic
CHM	1504	General Chemistry I			

Recommended for students taking the Drafting and Design Option:

ISC	4405	Process Planning	ISC	4304	Production Planning
ISC	4400	Time and Motion Study	ISC	4314	Inspection & Quality Control
ISC	4404	Plant Layout & Materials Handling			

Recommended for students taking the Manufacturing Option:

MEC	4604	Machine Design
MEC	4405	Mechanisms
MEC	4404	Die Design

MEDICAL OFFICE ASSISTING

The Medical Office Assistant is a person trained to assist the physician in the office, clinic or other medical setting, to provide quality health care services. Business-administrative duties include; obtaining patient data, maintaining medical records, typing and medical transcriptions, handling appointments, correspondence, insurance reports, office accounts and general care of the office. Clinical duties may include admitting and preparing patients for examinations, assisting with diagnostic tests and therapeutic treatments, performing routine office laboratory procedures and electrocardiograms, sterilizing instruments and instructing patients in preparations for x-rays and other diagnostic tests.

DESCRIPTION OF CURRICULUM

A diploma will be awarded to students who satisfactorily complete the one year Medical Office Assisting curriculum. In addition to classroom studies, each student will be provided with "on the job" practice in a doctor's office under the direct supervision of a doctor and/or a medical assistant. These experiences are planned and coordinated by a member of the College faculty.

The program has been accredited by the American Medical Association's Committee on Allied Health Education in collaboration with the American Association of Medical Assistants. Graduates are eligible to take the national examination to become Certified Medical Assistants.

Suggested Sequence of Required Courses For Medical Office Assisting

COURSE TITLE				HOURS/WEEK			QTR
				CLS	LAB	CLN	HRS
FIRST QUARTER							
BIO	3600	Basic Health Science		5	2	0	6
MED	3304	Medical Terminology & Vocabulary I		3	0	0	3

COURSE TITLE			HRS/WK			QTR
			CLS	LAB		HRS CR
MED	5304	Orientation to Health Careers	3	0	0	3
SEC	3404	Typing I	3	2	0	4
			14	4	0	16
SECOND QUARTER						
COM	1304	Introduction to Communications	3	0	0	3
MED	3305	Medical Terminology & Vocabulary II	3	0	0	3
MED	3400	Medical Office Administration I	2	4	0	4
MED	3404	Medical Economics	3	2	0	4
MED	4302	Ethics & Law	3	0	0	3
			14	6	0	17
THIRD QUARTER						
MED	3306	Medical Terminology & Vocabulary III	3	0	0	3
MED	3315	Medical Office Administration II	3	0	0	3
MED	5704	Examination Room Procedures	3	8	0	7
MED	5614	Laboratory Procedures	3	6	0	6
			12	14	0	19
FOURTH QUARTER						
MED	5414	Medical Office Assisting Seminar	4	0	0	4
MED	5807	Medical Office Practice	0	0	24	8
			4	0	24	12

MEDICAL OFFICE ASSISTING TECHNOLOGY

(LATE APPROVAL BY STATE BOARD PLACES THIS ON PAGE 76)

MEDICAL RECORD TECHNOLOGY

A medical record is a permanent document of the history and progress of one person's illness or injury, made to preserve information of medical, scientific, legal and planning value. It is a compilation of observations and findings recorded by the patient's physician and other professional members of the medical team.

Medical Record Technicians serve as specially trained assistants to the Registered Record Administrator, carrying out the many technical activities within a medical record department. These duties consist of typing medical reports, preparing statistical reports, supervising clerical personnel, processing the medical records to assure completeness and accuracy according to set standards, coding diseases by accepted diagnostic nomenclatures, working with physicians, nurses and other health professionals on medical documentation and medical research. In small hospitals and nursing homes, the Medical Record Technician is often employed as the director of the medical record department.

DESCRIPTION OF CURRICULUM

The degree, Associate in Applied Science in Medical Record Technology, is awarded upon completion of the program. The program includes study in biological, social and secretarial sciences, communication skills, and medical record science theory and clinical application. Medical record clinical experiences are provided by hospitals in local and surrounding areas.

The program is accredited by the AMA's Council on Allied Health Education and Accreditation and the American Medical Record Association. Graduates are eligible to take the national accreditation examination to become "Accredited Record Technicians".

Suggested Sequence of Required Courses For Medical Record Technology

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CLN	HRS CR
FIRST QUARTER						
BIO	1504	Human Anatomy & Physiology I	3	4	0	5
MRT	3404	Medical Record Science I	2	4	0	4
MED	3304	Medical Terminology & Vocabulary I	3	0	0	3
COM	1304	Introduction to Communication	3	0	0	3
SEC	3404	Typing I	3	2	0	4
			14	10	0	19
SECOND QUARTER						
BIO	1505	Human Anatomy & Physiology II	3	4	0	5
MRT	3405	Medical Record Science II	2	4	0	4
MED	3305	Medical Terminology & Vocabulary II	3	0	0	3
FIN	3314	Business Mathematics I	3	0	0	3
SEC	3405	Typing II	3	2	0	4
			14	10	0	19
THIRD QUARTER						
MRT	3414	Medical Record Science III	2	4	0	4
MRT	3204	Directed Practice I	0	0	6	2
MED	3306	Medical Terminology & Vocabulary III	3	0	0	3
COM	3305	Communications II*	3	0	0	3
MRT	3200	Quality Assurance in Health Care Facilities	1	2	0	2
MRT	3424	Principles of Disease	4	0	0	4
			13	6	6	18

COURSE TITLE			HOURS/WEEK			QTR
			CLS	LAB	CLN	HRS CR
FOURTH QUARTER						
MRT	4404	Medical Record Science IV	3	2	0	4
MRT	4205	Directed Practice II	0	0	6	2
MED	3400	Medical Office Administration I	2	4	0	4
COM	3306	Communications III*	3	0	0	3
EDP	3300	Introduction to Computer Concepts	3	0	0	3
			11	6	6	16
FIFTH QUARTER						
MRT	4315	Medical Record Science V	3	0	0	3
MRT	4206	Directed Practice III	0	0	6	2
PSY	2504	General Psychology	5	0	0	5
MGT	4330	Supervision OR				
MGT	4332	Personnel Management Elective	3	0	0	3
			3	0	0	3
			14	0	6	16
SIXTH QUARTER						
MRT	4405	Medical Record Seminar	4	0	0	4
MRT	4804	Directed Practice IV	0	0	24	8
			4	0	24	12

*COM 1305, COM 1306 may be substituted for COM 3305 and COM 3306.

SUGGESTED ELECTIVES

ACC	1604	Principles of Accounting I	5	2	0	6
BIO	1503	Microbiology	3	4	0	5
BUS	1400	Introduction to Business	3	2	0	4
MGT	4331	Administrative Office Management	3	0	0	3
ECO	2304	Economics I (Macro)	3	0	0	3
EDP	2306	Computer Programming I	2	2	0	3
MAT	2514	Statistics I	5	0	0	5
MED	3315	Medical Office Administration II	3	0	0	3
SPH	1300	Oral Communications	3	0	0	3

MOTORCYCLE MECHANICS

Motorcycles are complicated machines requiring highly skilled, well-trained personnel to properly repair and maintain them for operation at peak efficiency.

DESCRIPTION OF CURRICULUM

The curriculum at Central Piedmont Community College is designed to provide a well-planned program of operational skills and theory necessary to become a motorcycle mechanic. The program of instruction includes a detailed study of motorcycle engines, electrical and fuel systems, frame and chassis, drive train and trouble-shooting. The graduate will receive a certificate from the College.

Suggested Sequence of Required Courses For Motorcycle Mechanics

COURSE TITLE			HRS/WK			QTR
			CLS	LAB	CR	HRS
FIRST QUARTER						
MME	5400	Motorcycle Electrical & Fuel Systems	2	6	4	
MME	5300	Motorcycle Frame & Chassis Service	2	3	3	
WLD	5110	Basic Oxyacetylene Welding	0	3	1	
MAT	5304	Shop Mathematics I	3	0	3	
PHY	5304	Shop Science I	2	2	3	
		Elective			2	
					16	
SECOND QUARTER						
MME	5800	Motorcycle Engines & Drive Train Service		4	12	8
(MME)	5402	Motorcycle Engines & Drive Train Service I		2	6	4*
(MME)	5403	Motorcycle Engines & Drive Train Service II		2	6	4*
MME	5200	Motorcycle Trouble Shooting		1	3	2
COM	5500	Communications Skills		5	0	5
PHY	5305	Shop Science II		2	2	3
						18

SUGGESTED ELECTIVES

AUB	5300	Auto Body Minor Damage & Paint Repair	1	6	3
AUB	5431	Paint Equipment & Preparation	2	6	4
MAC	5201	Machine Shop Practices	1	3	2
PME	5210	Outboard Motor Repair I	1	3	2
PME	5211	Small Engine Repair I	1	3	2
PME	5214	Small Engine Overhaul	1	3	2
PME	5220	Chain Saw Repair	1	3	2
PME	5421	Outboard Powerhead Service	2	6	4
PME	5322	Outboard Lower Unit Service	2	3	3
WLD	5120	Basic Electric Arc Welding	0	3	1

NOTE:

SPECIAL COSTS

When enrolling in MME courses, the student is required to furnish his own tools. A list of these basic tools can be obtained by contacting one of the Motorcycle Mechanics Instructors.

*For Evening Students

NURSE AIDE

The Nurse Aide is an important member of the nursing team. Hospitals, nursing homes and other health facilities are in need of trained people. Both men and women find employment as nurse aides.

DESCRIPTION OF CURRICULUM

The Nurse Aide course provides the opportunity for students to gain an understanding of the principles essential to giving basic patient care.

The course of study is 11 weeks (one quarter) in length and provides both classroom and supervised hospital experience.

Upon successful completion of the course a certificate will be awarded, qualifying the recipient to work as a Nurse Aide.

Suggested Sequence of Required Courses For Nurse Aide

COURSE TITLE			HOURS/WEEK			QTR HRS
			CLS	LAB	CLN	
FIRST QUARTER						
COM	5500	Communications Skills	5	0	0	5
HSA	5200	Human Relations	2	0	0	2
NUA	5700	Nurse Aide Skills I	3	0	12	7
NUA	5701	Nurse Aide Skills II	3	0	12	7
			13	0	24	21

PARALEGAL PROGRAM

In our complex society it has become necessary to have legally qualified personnel for research, reference, analysis, interpretation and contact with the public and private sectors of the law and the courts. In many instances a Paralegal can provide much of the background and support work for an employer who needs these types of services.

Trained Paralegals have the ability to provide needed legal services for judges, clerks, prosecutors, public defenders and other court personnel. Paralegals can assist correction officials, probation and parole officers. They can also provide valuable assistance to consumer laws organizations, real estate and finance companies, and social agencies.

DESCRIPTION OF CURRICULUM

The Paralegal Curriculum incorporates a study of both substantive and procedural law. All students are trained in the skills which are most often used in the law office such as research and drafting, techniques of interview and investigation and management of law offices. Students then have the opportunity to select courses which will teach them specialized skills in the areas of law they most desire to work.

A graduate of this six-quarter program will receive an associate degree in Applied Science in Paralegalism. This program is part of the Public Service Department.

A graduate is qualified to render valuable assistance to those in the practice of law.

Suggested Sequence of Required Courses For Paralegal

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	CLS	LAB				HRS	HRS/WK	CLS	LAB	HRS
FIRST QUARTER						SECOND QUARTER					
BUS	2304	Business Low I	3	0	3	ACC	1604	Principles of Accounting I	5	2	6
FIN	3314	Business Mathematics I*	3	0	3	BUS	2305	Business Low II	3	0	3
LEX	3300	Intro. to Parolegologism	3	0	3	COM	1304	Intro. to Communication	3	0	3
LEX	3404	Legal Research I	2	4	4	LEX	3310	North Carolina Legal Systems	2	2	3
SEC	3301	Legal Term. & Vocabulary	3	0	3	SPH	1301	Persuasive Speaking	3	0	3
			14	4	16				16	4	18
THIRD QUARTER						FOURTH QUARTER					
COM	3305	Communicotions II**	3	0	3	COM	3306	Communicotians III**	3	0	3
LEX	3405	Legal Research II	2	4	4	LEX	3320	Evidence	3	0	3
LEX	4321	Tort Law	3	0	3	LEX	4322	Corporate Low	3	0	3
LEX	4431	Interview & Investigation	3	2	4	.....	.....	Group B Course	3	0	3
.....	.....	Group A Course	3	0	3	.....	.....	Group C Course	3	0	3
			14	6	17	.....	.....	Elective***	3	0	3
									18	0	18
FIFTH QUARTER						SIXTH QUARTER					
LEX	3406	Legol Research III	2	4	4	.....	.....	Group C Courses	9	0	9
LEX	4331	Law Office Management	3	0	3	.....	.....	Group D Courses	9	0	9
.....	.....	Group C Courses	5	0	5				18	0	18
.....	.....	Group D Courses	6	0	6						
			16	4	18						

*MAT 1504, 1505 or MAT 1514, 1515 may be taken if student has met requirements.

**COM 1305, 1306, 1314 may be taken if student has met requirements.

***SEC 3404, Typing I, required of all students who have not had one year of typing in high school or the equivalent.

GROUP A COURSES				GROUP B COURSES			
ECO	2304	Economic I (Macro)	3 0 3	BUS	3300	Applied Psychology	3 0 3
ECO	2305	Economics II (Micro)	3 0 3	PSC	4503	Law Enforcement Psychology	
ECO	3301	American Economic History	3 0 3	PSY	2504	General Psychology	5 0 5
				PSY	3314	Principles of Humanistic Psychology	3 0 3
GROUP C COURSES				GROUP D COURSES			
BUS	4303	Labor Law	3 0 3	LEX	4332	Trial Preparation & Procedure	3 0 3
CSC	3504	Juvenile Justice System	5 0 5	LEX	4351	Laws of Taxation	3 0 3
LEX	4300	Domestic Relations Law	3 0 3	LEX	4410	Collections & Bankruptcy	3 2 4
LEX	4341	Worker's Compensation Law	3 0 3	LEX	4420	Real Property Law & Title Abstracting	3 2 4
LEX	4361	Interpreting Medical Reports	3 0 3	LEX	4430	Wills, Trusts & Probate	3 2 4
PSC	3510	Criminal Law	5 0 5	LEX	4600	Paralegal Internship	1 15 6
PSC	4501	Constitutional Law	5 0 5	PSC	3504	Crime Scene Technology	4 2 5
SSH	3504	Occupational Safety & Health I	4 2 5	PSC	4504	Criminal Procedure & Rules of Evidence	5 0 5
TRN	4354	Transportation Law I	3 0 3	PSC	4505	Criminal Investigation	5 0 5
TRN	4355	Transportation Law II	3 0 3				

PHYSICAL THERAPIST ASSISTANT

Since 1968 this program has attempted to help meet the increasing demands for physical therapy personnel. Working under the supervision of the professional physical therapist, the Assistant is prepared to offer direct patient services for prevention or alleviation of physical impairments. The program is accredited by the American Physical Therapy Association.

DESCRIPTION OF CURRICULUM

The Associate in Applied Science degree will be awarded upon successful completion of a six-quarter period of study which combines specialized and general college courses. The classes are held on the College campus with clinical education carefully planned in community health facilities. The history, philosophy and procedures of physical therapy are interwoven with study in the basic physical and social sciences and communications.

Suggested Sequence of Required Courses For Physical Therapist Assistant Program

			COURSE TITLE			HOURS/WEEK			QTR HRS
FIRST QUARTER						CLS	LAB	CLN	CR
BIO	1504		Human Anatomy & Physiology I			3	4	0	5
PSY	2504		General Psychology			5	0	0	5
MED	3304		Medical Terminology & Vocabulary I			3	0	0	3
HED	1204		First Aid I			1	2	0	2
PTH	3404		Introduction to Physical Therapy			3	0	3	4
			Elective**						
						15	6	3	19
SECOND QUARTER									
BIO	1505		Human Anatomy & Physiology II			3	4	0	5
COM	1304		Introduction to Communication			3	0	0	3
PTH	3524		Physical Therapy Procedures I			3	0	6	5
PTH	3515		Applied Anatomy			3	4	0	5
			Elective**						
						12	8	6	18
THIRD QUARTER									
COM	1305		English Composition II						
			OR						
COM	3305		Communications II			3	0	0	3
SOC			Elective			5	0	0	5
PTH	3525		Physical Therapy Procedures II			3	0	6*	5
PTH	3614		Therapeutic Exercise			3	6	0	6
			Elective**						
						14	6	6	19
FOURTH QUARTER									
COM	1306		English Composition III						
			OR						
COM	3306		Communications III			3	0	0	3
PTH	4627		Physical Therapy Procedures III			3	0	9*	6
PTH	4324		Psychology of Adjustment			3	0	0	3
			Elective**						
						9	0	9	12

COURSE TITLE				HOURS/WEEK			QTR HRS CR
				CLS	LAB	CLN	
FIFTH QUARTER							
SPH	1300	Oral Communication		3	0	0	3
PTH	4728	Physical Therapy Procedures IV		3	0	12*	7
PTH	4334	Community Health & Welfare Elective**		3	0	0	3
				<u>9</u>	<u>0</u>	<u>12</u>	<u>13</u>
SIXTH QUARTER							
PTH	4344	Seminar in Physical Therapy Procedures		3	0	0	3
PTH	4704	Clinical Education I		2	0	15	7
PTH	4705	Clinical Education II		<u>2</u>	<u>0</u>	<u>15</u>	<u>7</u>
				7	0	30	17

*Clinic contact hours include a combination of laboratory and clinic hours as assigned by the instructor.

**9-10 Credit Hours in college transfer course elective required, taken only of these quarters.

PRACTICAL NURSING

The Licensed Practical Nurse is an important member of the health care team. In addition to the nursing care given to convalescing patients and to those with chronic or handicapping conditions, the Licensed Practical Nurse is also prepared to assist the Registered Nurse in caring for the more seriously ill and injured. Both men and women find opportunities for service as Licensed Practical Nurses in hospitals, clinics, nursing homes, doctors offices and industries. Admission is based upon satisfactory scores on specific entrance tests, personal interviews, and evidence of good physical and mental health. Applicants must submit a completed high school transcript or other evidence of attainment of a high school education. Students are admitted in the Fall Quarter each year.

DESCRIPTION OF CURRICULUM

The curriculum of the Practical Nurse Program provides the opportunity for students to gain the knowledge, skills, and appreciations which are needed by the Licensed Practical Nurse. The course of study is four quarters or one year in length. Opportunity is provided for the study and practice of nursing care of patients of all age groups in medical-surgical nursing, care of the sick child and care of the mother and newborn infant.

The Audio-Tutorial Method is used for the instruction of nursing theory. This method allows students to learn each week's work at their own pace and a time that is convenient to the student. Discussion groups and testing periods are scheduled weekly.

Upon completion of the curriculum the graduate is awarded a diploma by the College and is qualified to write the licensing examination given by the North Carolina Board of Nursing.

Suggested Sequence of Required Courses For Practical Nursing

COURSE TITLE				HOURS/WEEK			QTR HRS CR
				CLS	LAB	CLN	
FIRST QUARTER							
COM	5500	Communications Skills		5	0	0	5
BIO	3600	Basic Health Science		5	2	0	6
NUP	5203	Orientation to Vocational Relationships		2	0	0	2
NUP	5704	Introduction to Patient Care		<u>3</u>	<u>4</u>	<u>6</u>	<u>7</u>
				15	6	6	20
SECOND QUARTER							
HSA	5200	Human Relations		2	0	0	2
NUP	5400	Basic Principles of Drug Administration		3	2	0	4
NUP	5904	Care of Patients with Medical/Surgical Conditions I		<u>3</u>	<u>2</u>	<u>15</u>	<u>9</u>
				8	4	15	15
THIRD QUARTER							
NUP	5705	Care of Patients with Medical/Surgical Conditions II		2	4	9	7
NUP	5717	Care of the Seriously Ill & Injured		<u>2</u>	<u>4</u>	<u>9</u>	<u>7</u>
				4	8	18	14
FOURTH QUARTER							
NUP	5104	Vocational Relationships		1	0	0	1
NUP	5706	Care of Infants & Children		2	4	9	7
NUP	5707	Care of Mothers & Newborn Infants		<u>2</u>	<u>4</u>	<u>9</u>	<u>7</u>
				5	8	18	15

RESPIRATORY THERAPY

The rapid advances in cardiorespiratory physiology, coupled with the development of sophisticated technology for the diagnosis and treatment of patients with cardiopulmonary disorders, have increased the need for the Respiratory Therapist. Respiratory Therapy is rapidly rising to the forefront of allied health services.

The Respiratory Therapist uses a wide variety of therapeutic skills, procedures, and techniques in the application of

The private secretary is the boss's right hand and must bring to the position, along with basic skills of shorthand, typing and English, an understanding of office procedure, accounting, human relations and the place of business and industry in the American economic system.

DESCRIPTION OF CURRICULUM

The degree of Associate in Applied Science in Executive Secretarial Science will be awarded upon successful completion of this curriculum. The program of studies provides for classes in shorthand, typing, English, business correspondence, business law, word processing concepts, and related areas.

Suggested Sequence of Required Courses For Executive Secretary

COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	HRS					HRS/WK	HRS	
FIRST QUARTER			CLS	LAB	CR	SECOND QUARTER			CLS	LAB	CR
COM	1304	Introduction to Communicotian	3	0	3	COM	3315	Advanced Grammar	3	0	3
SEC	3404	Typing I	3	2	4	FIN	3314	Business Mathematics I	3	0	3
SEC	3320	Personality Development	3	0	3	SEC	3405	Typing II	3	2	4
BUS	1400	Intraduction to Business	3	2	4	SEC	3414	Sharthand I	3	2	4
BUS	3300	Applied Psychology	3	0	3	ECO	2304	Ecanamics I(Mocra)	3	0	3
			15	4	17				15	4	17
THIRD QUARTER						FOURTH QUARTER					
FIN	3315	Business Mathematics II	3	0	3	SEC	4305	Business Cammunications	3	0	3
SEC	3406	Typing III	3	2	4	SEC	4407	Typing IV	3	2	4
SEC	3415	Sharthand II	3	2	4	SEC	3416	Sharthand III	3	2	4
SEC	4370	Recards Management	3	0	3	SEC	3304	Office Machines	2	2	3
SPH	1300	Oral Cammunicatians				BUS	2304	Business Low I	3	0	3
		OR							14	6	17
SPH	2300	Vaice and Dictian	3	0	3						
			15	4	17						
FIFTH QUARTER						SIXTH QUARTER					
SEC	4617	General Office Pracedures	5	2	6	EDP	3300	Intraduction to			
SEC	4417	Dictation and Transcription I	3	2	4		Computer Concepts		3	0	3
SEC	4426	Ward Prrocessing & Mochine Transcription	3	2	4	ACC	3600	Secretarial Accounting	5	2	6
		Elective	3	0	3	SEC	4418	Dictation & Transcription II	3	2	4
			14	6	17		Elective		5	0	5
									16	4	18

GENERAL OFFICE TECHNOLOGY

The General Office Technology curriculum is designed to prepare students for a variety of office positions.

DESCRIPTION OF CURRICULUM

This program is for students who desire training in general office work in which shorthand and in-depth accounting are not required but may be taken if desired. The curriculum prepares students to handle typical office tasks: typing, filing, transcribing, duplicating, mail handling, telephoning, record keeping, greeting customers, and using various office machines — including word processing equipment.

Upon successful completion of this two-year program, students receive the Associate of Applied Science Degree in General Office Technology.

Suggested Sequence of Courses For General Office Technology

COURSE TITLE				QTR		COURSE TITLE				QTR			
				HRS/WK	HRS					HRS/WK	HRS		
FIRST QUARTER				CLS	LAB	CR	SECOND QUARTER				CLS	LAB	CR
COM	1304	Introduction to					COM	3315	Advanced Grammar		3	0	3
		Communication		3	0	3	SEC	3405	Typing II		3	2	4
SEC	3404	Typing I		3	2	4	SEC	3320	Personality Development		3	0	3
SPH	2300	Voice and Dictian					FIN	3315	Business Mothematics II		3	0	3
		OR					BUS	1400	Intraduction ta Business		3	2	4
SPH	1300	Orol Cammunications		3	0	3				15	4	17	
FIN	3314	Business Mathematics I		3	0	3							
ECO	2304	Ecanomics I (Macra)		3	0	3							
				15	2	16							
THIRD QUARTER						FOURTH QUARTER							
SEC	4310	Vacabulary Building		3	0	3	SEC	4305	Business Communications		3	0	3
SEC	3406	Typing III		3	2	4	SEC	4407	Typing IV		3	2	4
BUS	2304	Business Low I		3	0	3	BUS	3300	Applied Psychalogy		3	0	3
SEC	3304	Office Machines		2	2	3	SEC	4370	Recards Management		3	0	3
EDP	3300	Intraduction to						Elective*		3	0	3	
		Computer Concepts		3	0	3				15	2	16	
				14	4	16							

FIFTH QUARTER					SIXTH QUARTER				
	COURSE TITLE	HRS/WK	QTR			COURSE TITLE	HRS/WK	QTR	
		CLS	LAB	HRS			CLS	LAB	HRS
SEC	4617 General Office Procedures	5	2	6	ACC	3600 Secretarial Accounting OR			
SEC	4426 Word Processing & Machine Transcription	3	2	4	ACC	1604 Principles of Accounting I	5	2	6
FIN	4350 Personal Money & Financial Management I OR				ECO	3301 American Economic History	3	0	3
MGT	4332 Personnel Management Elective*	3	0	3	MGT	4331 Administrative Office Management Elective	3	0	3
		3	0	3			5	0	5
		14	4	16			16	2	17

*It is recommended that these electives are concentrated in one area to develop a specific skill: data processing, shorthand, graphic arts, accounting, or another area.

LEGAL SECRETARY

The legal secretary is an essential employee in any law office. Well-qualified legal secretaries are in constant demand. It is the purpose of this curriculum to provide a training program that will enable graduates to meet the specialized needs of the legal profession.

The duties of a legal secretary may consist of filing, taking dictation, transcribing letters and legal documents, greeting clients and other office callers, screening telephone calls, and scheduling appointments. The legal secretary needs not only the usual secretarial skills but also knowledge of legal terminology and procedures.

Opportunities for the graduate exist in law offices, corporate legal departments, banks, trust companies, various governmental agencies, and many other firms.

DESCRIPTION OF CURRICULUM

The Legal Secretarial curriculum is designed to prepare the student for a variety of secretarial positions in the legal profession. Courses in typing, dictation, transcription, filing, and office machines are offered. Training in these secretarial skills is supplemented by related courses in business law, legal terminology, legal office procedures, word processing, mathematics and accounting. The degree of Associate in Applied Science in Legal Secretarial Science will be awarded upon successful completion of the curriculum.

Suggested Sequence of Required Courses For Legal Secretary

FIRST QUARTER					SECOND QUARTER				
	COURSE TITLE	HRS/WK	QTR			COURSE TITLE	HRS/WK	QTR	
		CLS	LAB	HRS			CLS	LAB	HRS
COM	1304 Introduction to Communication	3	0	3	COM	3315 Advanced Grammar	3	0	3
SEC	3404 Typing I	3	2	4	FIN	3314 Business Mathematics I	3	0	3
SEC	3414 Shorthand I	3	2	4	SEC	3405 Typing II	3	2	4
SEC	4310 Vocabulary Building	3	0	3	SEC	3415 Shorthand II	3	2	4
SEC	4370 Records Management	3	0	3	SEC	3301 Legal Terminology & Vocabulary	3	0	3
		15	4	17			15	4	17
THIRD QUARTER					FOURTH QUARTER				
	COURSE TITLE	HRS/WK	QTR			COURSE TITLE	HRS/WK	QTR	
		CLS	LAB	HRS			CLS	LAB	HRS
SEC	3416 Shorthand III	3	2	4	SEC	3304 Office Machines	2	2	3
SEC	3406 Typing III	3	2	4	BUS	2304 Business Law I	3	0	3
FIN	3315 Business Mathematics II	3	0	3	SEC	4407 Typing IV	3	2	4
SEC	4305 Business Communications	3	0	3	SEC	4417 Dictation & Transcription I	3	2	4
ACC	3600 Secretarial Accounting	5	2	6	SEC	4426 Word Processing & Machine Transcription	3	2	4
		17	6	20			14	8	18
FIFTH QUARTER					SIXTH QUARTER				
	COURSE TITLE	HRS/WK	QTR			COURSE TITLE	HRS/WK	QTR	
		CLS	LAB	HRS			CLS	LAB	HRS
SEC	4639 Legal Office Procedures	5	2	6	BUS	3300 Applied Psychology	3	0	3
SEC	4448 Legal Dictation & Transcription	3	2	4	EDP	3300 Introduction to Computer Concepts	3	0	3
SEC	3320 Personality Development	3	0	3	SPH	1300 Oral Communications OR			
BUS	2305 Business Law II	3	0	3	SPH	2300 Voice and Diction	3	0	3
LEX	4331 Law Office Management OR				BUS	2306 Business Law III	3	0	3
MGT	4331 Administrative Office Management	3	0	3		Elective	5	0	5
		17	4	19			17	0	17

MEDICAL SECRETARY

The demand for well-qualified medical secretaries in an ever-expanding medical profession is becoming acute. The purpose of this curriculum is to outline a training program that will provide specialized training in the accepted secretarial procedures required by the medical profession. The duties of a medical secretary may consist of filing, taking dictation, transcribing letters, memoranda and reports, receiving callers, screening telephone calls, completing insurance forms, and scheduling appointments. The graduate may enter a secretarial position in physicians' offices, private and public hospitals, public health agencies, and drug and pharmaceutical companies.

DESCRIPTION OF CURRICULUM

The Medical Secretary curriculum is designed to offer the student the necessary secretarial skills for employment in

medical or health-related agencies. The graduate will have a knowledge of medical terminology, skills in typing and transcription, and training in word processing. Special training in secretarial subjects will be supplemented by related courses in mathematics, accounting, and communications. The degree of Associate in Applied Science in Medical Secretarial Science will be awarded upon successful completion of the curriculum.

Suggested Sequence of Required Courses For Medical Secretary

COURSE TITLE			HRS/WK		QTR	COURSE TITLE			HRS/WK		QTR
			CLS	LAB	CR				CLS	LAB	CR
FIRST QUARTER						SECOND QUARTER					
COM	1314	Introduction to Communication	3	0	3	COM	3315	Advanced Grammar	3	0	3
SEC	3404	Typing I	3	2	4	MED	3305	Medical Terminology and Vocabulary II	3	0	3
BIO	3600	Basic Health Science	5	2	6	SEC	3405	Typing II	3	2	4
MED	3304	Medical Terminology and Vocabulary I	3	0	3	SEC	3414	Shorthand I	3	2	4
SEC	4370	Records Management	3	0	3	FIN	3314	Business Mathematics I	3	0	3
			17	4	19				15	4	17
THIRD QUARTER						FOURTH QUARTER					
FIN	3315	Business Mathematics II	3	0	3	SEC	4407	Typing IV	3	2	4
SEC	3415	Shorthand II	3	2	4	SEC	3416	Shorthand III	3	2	4
SEC	3406	Typing III	3	2	4	SEC	4305	Business Communications	3	0	3
SEC	3304	Office Machines	2	2	3	SEC	4426	Word processing and Machine Transcription	3	2	4
MED	3306	Medical Terminology and Vocabulary III	3	0	3	BUS	3300	Applied Psychology OR			
			14	6	17	SEC	3320	Personality Development	3	0	3
									15	6	18
FIFTH QUARTER						SIXTH QUARTER					
SEC	4628	Medical Office Procedures	5	2	6	ACC	5610	Medical Accounting	5	2	6
SEC	4406	Medical Shorthand	3	2	4	EDP	3300	Introduction to Computer Concepts	3	0	3
SEC	4310	Vocabulary Building	3	0	3	SEC	3424	Medical Transcription I Elective	2	4	4
SPH	1300	Oral Communication OR							5	0	5
SPH	2300	Voice and Dictation	3	0	3				15	6	18
MED	4302	Medical Ethics and Law	3	0	3						
			17	4	19						

SMALL ENGINE AND POWERBOAT MECHANICS

Small engines and powerboats are manufactured in a great variety of types and sizes. These are complicated machines requiring well-trained personnel to properly maintain them. Employment opportunities are good for the person who is anxious to learn and willing to work.

DESCRIPTION OF THE CURRICULUM

This curriculum at Central Piedmont Community College is designed to provide a program of instruction in maintaining small engines and powerboats. This includes the repair of mechanical, electrical, fuel, and drive systems of small engine powered equipment used in lawn and garden work, construction work, industrial work and recreational activities.

It also includes instruction in the repair of mechanical, electrical, fuel and drive systems of outboard, inboard and stern drive boats.

Students completing DSL 5304, MAT 5304, PHY 5304, PME 5211, PME 5214, PME 5220, PME 5301, PME 5411, WLD 5110 and WLD 5120 may receive a certificate in Small Engine Repair.

Students completing AUT 5401, AUT 5405, AUT 5415, MAT 5304, PHY 5304, PME 5322, PME 5410, PME 5421 and PME 5423 may receive a certificate in Marine Mechanics.

Students completing all listed courses and electives will receive a diploma from the college.

			QTR						QTR		
COURSE TITLE			HRS/WK	HRS		COURSE TITLE			HRS/WK	HRS	
			CLS	LAB	CR				CLS	LAB	CR
AUT	5401	Internal Combustian Engines I	2	6	4	PME	5322	Outboard Lower Unit Service	2	3	3
AUT	5405	Basic Fuel Systems	2	6	4	PME	5410	Outboard Electrical & Fuel Systems	2	6	4
AUT	5415	Electrical Systems I	2	6	4	PME	5411	Power Transmission & Drive Systems	2	6	4
COM	5500	Communications Skills	5	0	5	PME	5421	Outboard Powerhead Service	2	6	4
DSL	5304	Hydraulics & Pneumatics	2	2	3	PME	5423	Stern Drive Service	2	6	4
MAT	5304	Shop Mathematics I	3	0	3	WLD	5110	Basic Oxyacetylene Welding	0	3	1
PHY	5304	Shop Science I	2	2	3	WLD	5120	Basic Electric Arc Welding	0	3	1
PHY	5305	Shop Science II	2	2	3						
PME	5211	Small Engine Repair I	1	3	2						
PME	5214	Small Engine Overhaul	1	3	2						
PME	5220	Chain Saw Repair	1	3	2						
PME	5301	Small Engine Electrical & Fuel Systems	2	3	3						

Suggested Electives:

AUT	5203	Automotive Tune-up
AUB	5300	Auto Body Minor Damage and Point Repair
MAC	5201	Machine Shop Practices
DSL	5300	Diesel Fundamentals
BUS	1400	Introduction to Business
MME	5400	Motorcycle Electrical and Fuel Systems

NOTE:

Students are required to furnish their own tools. A list of these basic tools can be obtained by contacting the counselor or on instructor in this area.

TRANSFER — ASSOCIATE IN ARTS DEGREE

ACCOUNTING**ART****BEHAVIORAL AND SOCIAL SCIENCES****BIOLOGY****BUSINESS ADMINISTRATION****COMMUNICATIONS****COMPUTER SCIENCE****HEALTH PHYSICAL EDUCATION AND RECREATION****HUMANITIES****MATHEMATICS****PERFORMING ARTS****PHYSICAL SCIENCE**

With the increased demand for education beyond the high school level, community colleges throughout the nation are faced with the challenge of providing both the first two years of baccalaureate degree work as well as service-oriented courses for general education and personal development. The transfer section of Central Piedmont Community College is dedicated to assisting students achieve their educational goals in both areas.

Transfer courses at Central Piedmont Community College are taught through stated student performance objectives. This method of teaching involves both content and motivation objectives. Student accountability is at the heart of this method of instruction since the student is accountable for meeting particular performance objectives.

Upon successful completion of most courses for the 2 year baccalaureate degree at Central Piedmont Community College the student should be able to evidence:

1. effective communication skills.
2. adequate analytical capabilities.
3. workable problem-solving skills.
4. increased awareness and understanding of the world in which they live.
5. familiarity with, and appreciation of the arts, literature, humanities.

GENERAL INFORMATION

The student should consult the general information section for general school policies. The following information is especially relevant to the Transfer — Associate in Arts Degree.

ADMISSION

The student should forward, as early as possible in advance of the date of registration, an application and a high school transcript to the Office of Student Services. Transcripts of any completed college work should be received prior to registration. While students may be processed to the date of registration, an early application assures adequate time for processing and counseling.

Central Piedmont Community College follows an "open door" policy and does not impose restrictive standards for admission to the college. All degree curricula, however, require high school graduation or the equivalent. In most cases, before students are admitted to a program or curriculum, a series of placement tests is scheduled and an academic advising interview is arranged. Placement tests determine skill levels in mathematics, English, and reading. This process aids students in evaluating their potential for success in their intended field of study. When scores on the tests indicate a lack of readiness to commence college level work, students will be assigned to courses in developmental studies.

UNITS OF CREDITS AND COURSE DESCRIPTIONS

Central Piedmont Community College is on a quarter system. One unit of credit is equal to one class hour meeting per week. In the section on course descriptions in subsequent pages, there appear the course number, the title of the course and the hours of credit for the course. The number of lecture hours and the number of laboratory hours are shown in parentheses. When the laboratory is required, one credit hour will equal at least two hours of laboratory time as appropriate to the course. The letters P.R. indicate the prerequisite. The letters C.R. indicate a corequisite of the course. Either may be waived by the department head.

REQUIREMENTS FOR THE DEGREE

The student must complete a minimum of ninety-six quarter hours of course work to qualify for the Associate in Arts Degree. Only ten hours of General Education Courses (GEN) may be included in the ninety-six hours. GEN courses provide students with specific study of general interest. These courses originate in and are taught through the different college departments. The student must have a quality point average of 2.0 (or "C") to be eligible for graduation.

The student is eligible for the Associate in Arts Degree upon completing the required ninety-six quarter hours for graduation, including, the minimum hours in each area listed below:

	QTR	HRS	CR		QTR	HRS	CR
Communication			9	Humanities			14
English Composition 1304, 1305, 1306 (Required of all students.)				This requirement is met by a sequence in language or some combination of courses in the following areas: Art, Drama, Humanities, Literature, Music, Philosophy, or Speech.			
Social Science			12	Biological Science, Physical Science & Mathematics			20
Includes Anthropology, Economics, History, Political Science, Psychology and Sociology				Courses must be chosen from at least two of the three fields.			
Health Physical Education			3	At least ten hours must be taken in a laboratory science, either biological or physical (Chemistry, Geology, Physical Geography or Physics).			
Select hours from HED and HPE courses listed below:							

NOTE: Requirements for the different pre-professional areas will vary; therefore, it is the responsibility of the student to check the catalog of the senior institution to which the student plans to transfer. High school background, scholastic aptitude, and vocational goals also will be considered as factors shaping the individual's program of study. Counselors and faculty members are available to assist the student in course selection. (THIS IS A SAMPLE PROGRAM AND IS NOT MEANT TO BE PRESCRIPTIVE FOR ANY PARTICULAR INDIVIDUAL).

1st quarter	qtr	hrs	cr	2nd quarter	qtr	hrs	cr
COM 1304 Intro. to Communications	3			COM 1305 English Composition II	3		
Mathematics (see following list)	5			Mathematics (see following list)	5		
Laboratory Science (see following list)	5 or 6			Laboratory Science (see following list)	5 or 6		
Physical Education	1			Physical Education	1		
Electives (see note next page)	1 or 3			Electives	1 or 3		
3rd quarter	qtr	hrs	cr	4th quarter	qtr	hrs	cr
COM 1306 English Composition III	3			Humanities (see following list)	3 or 5		
Social Science (see following list)	3 or 5			Social Science (see following list)	3 or 5		
Physical Education	1			Electives	6 to 10		
Electives	7 to 9						
5th quarter				6th quarter			
Humanities (see following list)	3 to 5			Humanities (if needed)			
Social Science	3 or 5			Electives to bring total hrs. to 96			
Electives	11 to 13						

BEHAVIORAL AND SOCIAL SCIENCES — must be selected from the following

ANT 1501 People and Cultures of the World	POL 1511 Introduction to International Relations
ANT 1511 Human Origins	POL 2500 State and Urban Politics
	POL 2501 Political Ideologies
ECO 2304 Economics I (Macro)	POL 2504 Special Topics in Political Science
ECO 2305 Economics II (Micro)	
ECO 2306 Economics III	PSY 2500 Educational Psychology
	PSY 2504 General Psychology
HIS 1500 World Civilization I	PSY 2505 Human Development
HIS 1501 World Civilization II	PSY 2514 Abnormal Psychology
HIS 1502 American History I	PSY 2524 Mental Retardation
HIS 1503 American History II	PSY 2536 Special Problems in Psychology
HIS 1520 Black History I	
HIS 1521 Black History II	SOC 1301 Group Interaction
HIS 2500 North Carolina History	SOC 1500 Sociology of the Family
HIS 2504 Special Topics in History	SOC 2501 People & Environment
HIS 2520 Oriental Civilization	SOC 2502 Women in Society
HIS 2530 Russian History	SOC 2514 Introduction to Sociology
	SOC 2515 Social Problems
POL 1502 American Politics	SOC 2524 Special Problems of Sociology
POL 1510 Introduction to Comparative Politics	

HEALTH, PHYSICAL EDUCATION & RECREATION — must be selected from the following

HED 1100 Health Education I	HED 1310 Your Health Your Choice
HED 1101 Health Education II	HPE 1100 Individual Activity
HED 1102 Health Education III	HPE 1103 Water Skiing
HED 1111 Special Health Problems	HPE 1104 Fencing, Beginning
HED 1200 Public Health & Sanitation	HPE 1107 Self Defense & Physical Conditioning, Beginning
HED 1201 Special Health Problems	HPE 1108 Self Defense & Physical Conditioning, Intermediate
HED 1202 Drugs & Related Issues	HPE 1109 Self Defense & Physical Conditioning, Advanced
HED 1203 CPR	HPE 1111 Scuba Diving
HED 1204 First Aid I	HPE 1112 Canoeing Basic
HED 1205 First Aid II	HPE 1114 Snow Skiing, Beginning
HED 1206 Advanced First Aid & Emergency Care	
HED 1207 CPR Instructor	
HED 1301 Special Health Problems	

HPE 1117 Ice Skating, Beginning
HPE 1123 Physical Fitness, Beginning
HPE 1126 Social Dance, Beginning
HPE 1130 Clagging
HPE 1134 Basic Courses of American Square Dancing
HPE 1140 Self Protection for Women
HPE 1144 Golf, Beginning
HPE 1147 Tennis, Beginning
HPE 1154 Tap Dancing, Beginning
HPE 1157 Jazz Dance, Beginning
HPE 1164 Yaga, Beginning
HPE 1170 Aerobics
HPE 1174 Mauntaineeing I

HPE 1176 Basic Outdoor Skills I
HPE 1178 Harseback Riding, Beginning
HPE 1184 Swimming, Beginning
HPE 1185 Swimming, Advanced Beginner
HPE 1186 Swimming, Intermediate
HPE 1187 Swimming, "Swimmer"
HPE 1188 Swimming, Life Saving
HPE 1189 Swimming, Water Safety Instructor
HPE 1194 Slimnastics, Beginning
HPE 1195 Slimnastics, Intermediate
HPE 1196 Gymnastics, Beginning
HPE 1197 Gymnastics, Intermediate
HPE 1198 Bowling, Beginning

HUMANITIES — must be selected from the following

ART 1300 Intraduction to Art I
ART 1301 Intraduction to Art II
ART 1310 History of Art I
ART 1311 History of Art II
ART 1312 History of Art III

DRA 1300 Intraduction to Drama
DRA 2414 Film Criticism

HUM 1300 Ascent of Man
HUM 1304 Current Dramatic Events
HUM 1314 The Novel
HUM 1319 Mythalogy
HUM 1324 Science Fiction
HUM 1500 Humanities I: Renaissance to Present
HUM 1501 Humanities II: Classical and Medieval
HUM 2320 Special Topics

LIT 2314 Cantemporary Literature
LIT 2320 Special Topics
LIT 2324 The Bible As Literature
LIT 2504 British Literature I
LIT 2505 British Literature II
LIT 2514 American Literature I
LIT 2515 American Literature II
LIT 2534 World Literature

MUS 1300 Intraduction to Music I
MUS 1301 Intraduction to Music II
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
MUS 1316 Music Appreciation III
MUS 1404 Music Theory I
MUS 1405 Music Theory II
MUS 1406 Music Theory III
MUS 2404 History & Literature Music I
MUS 2405 History & Literature Music II
MUS 2406 History & Literature Music III
MUS 2407 Advanced Music Theory I
MUS 2408 Advanced Music Theory II
MUS 2409 Advanced Music Theory III

PHI 1500 Intraduction to Philasaphy
PHI 2500 Logic

SPH 1301 Persuasive Speaking
SPH 2300 Voice and Diction
SPH 2304 Public Speaking

FRE 2600 Intermediate French I*
FRE 2601 Intermediate French II*

GER 2600 Intermediate German I*
GER 2601 Intermediate German II*

SPA 2600 Intermediate Spanish I*
SPA 2601 Intermediate Spanish II*

*May be used towards Humonities requirements if bath courses are completed.

LABORATORY SCIENCES — must be selected from the following

BIOLOGICAL SCIENCES

BIO 1500 Bialogical Sciences
BIO 1501 General Batany
BIO 1502 General Zaalogy
BIO 1503 Micrabiology
BIO 1504 Human Anatomy & Physiology I
BIO 1505 Human Anatomy & Physiology II
BIO 2500 Intraduction to Entamalogy
BIO 2501 Ornithology
BIO 2502 Marine Bialogy
BIO 2504 Selected Topics in Biology
BIO 2514 Vertebrate Zaalogy
BIO 2524 General Ecology

PHYSICAL SCIENCES

CHM 1500 Intraductury Chemistry I
CHM 1501 Intraductury Chemistry II
CHM 1502 Intraductury Chemistry III
CHM 1504 General Chemistry I
CHM 1505 General Chemistry II
CHM 1506 General Chemistry III
CHM 2304 Special Problems
CHM 2604 Quantitative Chemical Analysis
CHM 2614 Organic Chemistry I
CHM 2615 Organic Chemistry II

GEL 1604 Physical Gealogy
GEL 2605 Historical Gealogy
GEO 1614 Intraduction to Phys. Geagraphy

PHY 1400 Science & Society
PHY 1404 Physics I: Basic Mechanics
PHY 1405 Physics II: Elastic & Thermal Praperties of Matter
PHY 1406 Physics III: Electricity & Mag.
PHY 1407 Physics IV: Modern Physics
PHY 2504 General Physics I: Mechanics
PHY 2505 General Physics II: Molecular Physics & Waves
PHY 2506 General Physics III: Electricity & Magnetism
PHY 2607 General Physics IV: Optics & Modern Physics

MATHEMATICS — must be selected from the following

MAT 1504	College Algebra I	MAT 2505	Analytic Geometry & Calculus III
MAT 1505	College Algebra II	MAT 2506	Analytic Geometry & Calculus IV
MAT 1514	Precalculus Mathematics I	MAT 2508	Introduction to Ordinary Differential Equations
MAT 1515	Precalculus Mathematics II	MAT 2514	Statistics I
MAT 1516	Introductory Calculus	MAT 2515	Statistics II
MAT 1524	Analytic Geometry & Calculus I	MAT 2590	Individual Study
MAT 2504	Analytic Geometry & Calculus II		

NOTE: Electives are provided to enable an individual to select courses acceptable to a senior institution in liberal arts and certain professional areas such as:

LIBERAL ARTS	PRE-MEDICAL
PRE-BUSINESS AND PUBLIC ADMINISTRATION	PRE-PHARMACOLOGY
PRE-ENGINEERING	PRE-EDUCATION (Elementary)
PRE-LAW	PRE-OPTOMETRY
PRE-DENTAL	PRE-EDUCATION (Secondary)
PRE-JOURNALISM	PRE-TEXTILE
PRE-MATHEMATICS	

The community college advisory committee, including representative of state-supported colleges and the University, has worked with the Department of Community Colleges and Central Piedmont Community College to assist in the development of curricula acceptable to the senior institutions of the area. Consequently, courses taken at Central Piedmont Community College should transfer in grade and credit to the institution as applicable to the curriculum for which such courses were intended. The student is able to transfer to the senior institution with junior status after completing two years of credit work at Central Piedmont Community College. Counselors and faculty members are ready to assist the student in courses selection. Students, however, are responsible for familiarizing themselves with transfer requirements to respective senior institutions and for making periodic checks of personal progress while completing freshman and sophomore requirements.

TRANSFER COURSES

Each course listing begins with three capitalized letters and a number. This is the abbreviation of the course name and the number is the position in the curriculum. The courses are listed in alphanumerical order at the end of this catalog. Following the number is the name of the course and a brief description of the courses. Following the description are additional numbers. The numbers in parentheses indicate the number of lecture and laboratory hours. The last number indicates the number of credit hours for completion of the course. Departmental course listings follow.

ACCOUNTING

The accounting courses are designed to develop the student's knowledge and understanding of fundamental and advanced principles and concepts of accounting; to develop the student's skill in recording data and operating machines needed on the job; and to familiarize the student with the areas in which accounting is used in the business community and the manner in which many businesses depend upon accounting as a management tool.

COURSE TITLE			QTR			COURSE TITLE			QTR				
			HRS/WK	CLS	LAB				HRS/WK	CLS	LAB	CR	
ACC	1604	Principles of Accounting I	5	2	6	ACC	2626	Intermediate Accounting I	5	2	6		
ACC	1605	Principles of Accounting II	5	2	6	ACC	2627	Intermediate Accounting II	5	2	6		

ART

The Art Department seeks to provide an environment including both instruction and experience which will enable its students to define the visual statements they wish to make and to equip them with the skills to make them. The broad range of courses offered seeks to provide for the wide variety of experience, interest, aptitude, and purpose of students. Opportunity for growth in skills, knowledge, and appreciation are offered for both the beginning and the experienced student.

				CLS	LAB	CR					CLS	LAB	CR
ART	1300	Intraduction ta Art I		3	0	3	ART	1321	Printmaking I		0	6	3
ART	1301	Intraduction ta Art II		3	0	3	ART	1322	Crafts		0	6	3
ART	1302	Art Education		2	2	3	ART	1324	Design I		0	6	3
ART	1303	Printmaking II		0	6	3	ART	1325	Design II		0	6	3
ART	1304	General Drawing I		0	6	3	ART	1326	Design III		0	6	3
ART	1305	General Drawing II		0	6	3	ART	1327	Sculpture I		0	6	3
ART	1306	General Drawing III		0	6	3	ART	1328	Sculpture II		0	6	3
ART	1307	Basic Photography		2	2	3	ART	1329	Sculpture III		0	6	3
ART	1308	Intermediate Patography		2	2	3	ART	1331	Basic Camera Techniques		3	0	3
ART	1309	Advonced Photography		2	2	3	ART	1334	Painting I		0	6	3
ART	1310	Histary of Art I		3	0	3	ART	1335	Painting II		0	6	3
ART	1311	Histary af Art II		3	0	3	ART	1336	Painting III		0	6	3
ART	1312	Histary af Art III		3	0	3	ART	1360	Raku		0	6	3
ART	1314	Basic Waadwarking		0	6	3	ART	1364	Ceramics I		0	6	3
ART	1315	Intermediate Waadwarking		0	6	3	ART	1365	Ceramics II		0	6	3
ART	1316	Advanced Waadwarking		0	6	3	ART	1366	Ceramics III		0	6	3
ART	1317	Furniture Restaration I		0	6	3	ART	1374	Jewelry I		0	6	3
ART	1318	Furniture Restaration II		0	6	3	ART	1375	Jewelry II		0	6	3
ART	1319	Furniture Restaration III		0	6	3	ART	1376	Jewelry III		0	6	3
							ART	2304	Independent Studia		0	6	3

BIOLOGY

The biology curriculum is designed to prepare students for professional careers in the life sciences and related areas; to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data and to be thorough in considering all aspects of a problem; to impart knowledge of the fauna and flora of our region for aesthetic as well as functional usage; to understand the role of the life sciences in mastering environments; to help students recognize themselves as highly complex members of the living world for which they are responsible; to help students become more knowledgeable citizens, parents, and leaders.

			CLS	LAB	CR				CLS	LAB	CR
BIO	1500	Biological Science	3	4	5	BIO	2305	Dental Nutrition	3	0	3
BIO	1501	General Botany	3	4	5	BIO	2500	Introduction to Entomology	3	4	5
BIO	1502	General Zoology	3	4	5	BIO	2501	Ornithology	3	4	5
BIO	1503	Microbiology	3	4	5	BIO	2502	Marine Biology	3	4	5
BIO	1504	Human Anatomy & Physiology I	3	4	5	BIO	2504	Selected Topics in Biology	3	4	5
BIO	1505	Human Anatomy & Physiology II	3	4	5	BIO	2514	Vertebrate Zoology	3	4	5
BIO	2300	Genetics	3	0	3	BIO	2524	General Ecology	3	4	5
BIO	2304	Human Nutrition	3	0	3	BIO	3404	Cordio-pulmonary Anatomy & Physiology	3	2	4
						BIO	3600	Basic Health Science	5	2	6

NOTE: Courses beginning with a 1 or a 2 are considered transfer courses.

BUSINESS ADMINISTRATION

The Business Administration courses which are transferable to four year colleges and universities should provide students with the necessary background in business law, economics and management to enroll in junior and senior level business courses at the receiving college. However, the student should consult the catalog of the receiving college or university for its requirements.

			CLS	LAB	CR				CLS	LAB	CR
BUS	1400	Introduction to Business	3	2	4	BUS	2306	Business Law III	3	0	3
MGT	2314	Principles of Management	3	0	3	ECO	2304	Economics I (MACRO)	3	0	3
BUS	2304	Business Law I	3	0	3	ECO	2305	Economics II (MICRO)	3	0	3
BUS	2305	Business Law II	3	0	3	ECO	2306	Economics III	3	0	3

COMMUNICATIONS

The courses are designed to help students improve their written and oral communications skills. Students read to observe the development of ideas by various techniques of expression, and they engage in discussion to find a logical relationship between idea and expression. They write and speak to develop their own skills in clear, accurate, and effective expression.

			CLS	LAB	CR				CLS	LAB	CR
COM	1304	Introduction to Communication	3	0	3	COM	5301	Communications Skills II	3	0	3
COM	1305	English Composition II	3	0	3	COM	5500	Communications Skills	5	0	5
COM	1306	English Composition III	3	0	3	JOU	1300	Practical Journalism	2	3	3
COM	1324	Creative Writing	3	0	3	SPH	1300	Oral Communications	3	0	3
COM	1325	Advanced Creative Writing	3	0	3	SPH	1301	Persuasive Speaking	3	0	3
COM	2390	Individual Study	3	0	3	SPH	2101	Parliamentary Procedure	1	0	1
COM	3305	Communications II	3	0	3	SPH	2300	Voice and Diction	3	0	3
COM	3306	Communications III	3	0	3	SPH	2304	Public Speaking	3	0	3
COM	3315	Advanced Grammar	3	0	3						

NOTE: Courses beginning with a 1 or 2 are considered transfer courses.

COMPUTER SCIENCE

The Computer Science Department offers courses for college transfer students to meet Computer Science requirements and/or to use as electives. As a student you should see an advisor or counselor in your major area or a member of the Computer Science faculty to determine the appropriate sequence to meet your objectives.

			CLS	LAB	CR				CLS	LAB	CR
EDP	1404	Computer Concepts & FORTRAN Programming I	3	2	4	EDP	2307	Computer Programming II (Business)	2	2	3
EDP	1405	FORTRAN Programming II	3	2	4	EDP	2308	Computer Systems & Assembly Language I	2	2	3
EDP	2306	Computer Programming I (Business)	2	2	3	EDP	2309	Computer Systems & Assembly Language II	2	2	3
						EDP	2514	Statistical & Numerical Programming	4	2	5

CONSUMER EDUCATION

The consumer education course is designed to provide the consumer a practical perspective in both everyday and long-range personal financing. Upon successful completion of this course, the student should better understand the complexities of money management, credit, consumer law, buying, investing and giving.

				QTR
	COURSE TITLE		HRS/WK	HRS
		CLS	LAB	CR
CED	1500 Consumer Education	5	0	5

HEALTH, PHYSICAL EDUCATION AND RECREATION

The health, physical education and recreation curriculum is designed to provide instruction which will lead to healthful living and to provide experience in physical activities which will lead to acquisition of skill and fitness with leisure-time or recreational value.

NOTE: A maximum of six quarter hours of Health, Physical Education and Recreation instruction may be counted toward the AA degree.

HEALTH											
			CLS	LAB	CR				CLS	LAB	CR
HED	1100	Health Education I	1	0	1	HED	1203	Cardiopulmonary			
HED	1101	Health Education II	1	0	1			Resuscitation (CPR)	2	0	2
HED	1102	Health Education III	1	0	1	HED	1204	First Aid I	1	2	2
HED	1111	Special Health Problems	1	0	1	HED	1207	CPR Instructor	2	0	2
HED	1200	Public Health & Sanitation	2	0	2	HED	1205	First Aid II	1	2	2
HED	1206	Advanced First Aid				HED	1301	Special Health Problems	3	0	3
		& Emergency Care	1	2	2	HED	1310	Your Health —			
HED	1201	Special Health Problems	2	0	2			Your Choice	2	2	3
HED	1202	Drugs & Related Issues	2	0	2						

PHYSICAL EDUCATION AND RECREATION SKILLS											
			QTR	LAB	CR				QTR	LAB	CR
HPE	1100	Individual Activity	0	3	1	HPE	1144	Golf-Beginning	0	3	1
HPE	1101	Archery	0	3	1	HPE	1145	Golf-Intermediate	0	3	1
HPE	1103	Water Skiing	0	3	1	HPE	1146	Golf-Advanced	0	3	1
HPE	1104	Fencing-Beginning	0	3	1	HPE	1147	Tennis-Beginning	0	3	1
HPE	1105	Fencing-Intermediate	0	3	1	HPE	1148	Tennis-Intermediate	0	3	1
HPE	1106	Fencing-Advanced	0	3	1	HPE	1149	Tennis-Advanced	0	3	1
HPE	1107	Self Defense & Physical Cond.-Beginning	0	3	1	HPE	1154	Tap Dancing-Beginning	0	3	1
HPE	1108	Self Defense & Physical Conditioning:-Intermediate	0	3	1	HPE	1155	Tap Dancing-Intermediate	0	3	1
HPE	1109	Self Defense & Physical Conditioning:-Advanced	0	3	1	HPE	1156	Tap Dancing-Advanced	0	3	1
HPE	1110	Camping, Trailer	0	3	1	HPE	1157	Jazz Dance-Beginning	0	3	1
HPE	1111	Scuba Diving	0	3	1	HPE	1158	Jazz Dance-Intermediate	0	3	1
HPE	1114	Snow Skiing-Beginning	0	3	1	HPE	1159	Jazz Dance-Advanced	0	3	1
HPE	1115	Snow Skiing-Intermediate	0	3	1	HPE	1164	Yaga-Beginning	0	3	1
HPE	1116	Snow Skiing-Advanced	0	3	1	HPE	1165	Yaga-Intermediate	0	3	1
HPE	1117	Ice Skating-Beginning	0	3	1	HPE	1166	Yaga-Advanced	0	3	1
HPE	1118	Ice Skating-Intermediate	0	3	1	HPE	1170	Aerabics	0	3	1
HPE	1119	Ice Skating-Advanced	0	3	1	HPE	1174	Mountaineering I	0	3	1
HPE	1123	Physical Fitness- Beginning	0	3	1	HPE	1175	Mauntaineering II	0	3	1
HPE	1125	Slimnastics-Advanced	0	3	1	HPE	1176	Outdaar Skills I (Basic)	0	3	1
HPE	1126	Social Dance-Beginning	0	3	1	HPE	1177	Outdaar Skills II	0	3	1
HPE	1127	Social Dance-Advanced Beginner	0	3	1	HPE	1178	Harseback Riding, Beginning	0	3	1
HPE	1128	Social Dance-Intermediate	0	3	1	HPE	1179	Harseback Riding, Advanced	0	3	1
HPE	1129	Social Dance-Advanced	0	3	1	HPE	1184	Swimming-Beginner	0	3	1
HPE	1130	Clogging	0	3	1	HPE	1185	Swimming-Advanced Beginner	0	3	1
HPE	1134	Basic Course of American Square Dance	0	3	1	HPE	1186	Swimming-Intermediate	0	3	1
HPE	1135	Extended Basic Course of American Square Dancing	0	3	1	HPE	1187	Swimming-"Swimmer"	0	3	1
HPE	1136	Advanced Basic Course of American Square	0	3	1	HPE	1188	Life Saving	0	3	1
HPE	1137	Explanatory Square Dance Class	0	3	1	HPE	1189	Water Safety Instruction	0	3	1
						HPE	1194	Slimnastics-Beginning	0	3	1
						HPE	1195	Slimnastics-Intermediate	0	3	1
						HPE	1196	Gymnastics-Beginning	0	3	1
						HPE	1197	Gymnastics-Intermediate	0	3	1
						HPE	1198	Bawling-Beginning	0	3	1
						HPE	1199	Bawling-Intermediate	0	3	1

HUMANITIES

The courses in language and literature offer opportunities for students to explore a wide range of ideas and values, to recognize their own needs as human beings, and ultimately to gain some perspective for making choices as individuals and as members of society.

All courses with HUM, LIT, and PHI prefixes count toward the humanities requirement. Also, FRE 2600 and FRE 2601 or SPA 2600 and SPA 2601 will satisfy the humanities requirement if both courses in a foreign language are completed.

FRENCH						GERMAN					
			CLS	LAB	CR				CLS	LAB	CR
FRE	1300	Travel French	3	1	3	GER	1600	Elementary German I	5	2	6
FRE	1600	Elementary French I	5	2	6	GER	1601	Elementary German II	5	2	6
FRE	1601	Elementary French II	5	2	6	GER	2600	Intermediate German I	5	2	6
FRE	2320	Special Topics	3	0	3	GER	2601	Intermediate German II	5	2	6
FRE	2600	Intermediate French I	5	2	6						
FRE	2601	Intermediate French II	5	2	6						

			CLS	LAB	CR				CLS	LAB	CR
HUMANITIES						LITERATURE					
HUM	1300	The Ascent of Man	3	0	3	LIT	2314	Contemporary Literature	3	0	3
HUM	1304	Current Dramatic Events	3	0	3	LIT	2320	Special Topics	3	0	3
HUM	1314	The Novel	3	0	3	LIT	2324	The Bible as Literature	3	0	3
HUM	1319	Mythology	3	0	3	LIT	2504	British Literature I	5	0	5
HUM	1324	Science Fiction	3	0	3	LIT	2505	British Literature II	5	0	5
HUM	1500	Humanities I: Renaissance to Present	5	0	5	LIT	2514	American Literature I	5	0	5
HUM	1501	Humanities II: Classical & Medieval	5	0	5	LIT	2515	American Literature II	5	0	5
HUM	2320	Special Topics	3	0	3	LIT	2534	World Literature	5	0	5
PHILOSOPHY						SPANISH					
PHI	1500	Introduction to Philosophy	5	0	5	SPA	1300	Travel Spanish	3	1	3
PHI	2500	Logic	5	0	5	SPA	1600	Elementary Spanish I	5	2	6
						SPA	1601	Elementary Spanish II	5	2	6
						SPA	2320	Special Topics	3	0	3
						SPA	2600	Intermediate Spanish I	5	2	6
						SPA	2601	Intermediate Spanish II	5	2	6

MATHEMATICS

The mathematics courses are designed to prepare students for professional careers in mathematics and related areas, to develop student knowledge and understanding of the fundamental principles and concepts of mathematics, to develop manipulative skills and the ability to apply mathematics to physical situations, and to satisfy the requirements of other college programs.

			CLS	LAB	CR				CLS	LAB	CR
MAT	1504	College Algebra I	5	0	5	MAT	2514	Statistics I	5	0	5
MAT	1505	College Algebra II	5	0	5	MAT	2515	Statistics II	5	0	5
MAT	1514	precalculus Mathematics I	5	0	5	MAT	2590	Individual Study	5	0	5
MAT	1515	precalculus Mathematics II	5	0	5	MAT	3500	Mathematics for Firemen	5	0	5
MAT	1516	Introductory Calculus	5	0	5	MAT	3501	Mathematics for Public Safety	5	0	5
MAT	1524	Analytic Geometry & Cal. I	5	0	5	MAT	3504	Technical Mathematics I	5	0	5
MAT	2504	Analytic Geometry & Cal. II	5	0	5	MAT	3505	Technical Mathematics II	5	0	5
MAT	2505	Analytic Geometry & Cal. III	5	0	5	MAT	3506	Technical Mathematics III	5	0	5
MAT	2506	Analytic Geometry & Cal. IV	5	0	5	MAT	4507	Technical Mathematics IV	5	0	5
MAT	2508	Introduction to Ordinary Differential Equations	5	0	5	MAT	5304	Shop Mathematics I	3	0	3
						MAT	5305	Shop Mathematics II	3	0	3

NOTE: Courses beginning with a 1 or 2 are considered transfer courses.

PERFORMING ARTS

DRAMA

The drama programs permit students to learn theater practice and theories by involving them in regular college theater productions. They have the opportunity to learn basic backstage procedures in addition to acting in plays. Basic theater courses in play production, stagecraft, theater history, acting, directing, and scene design are open to all students. The college theater productions are correlated with course activities whenever possible.

			CLS	LAB	CR				CLS	LAB	CR
DRA	1300	Introduction to Drama	3	0	3	DRA	1311	Play Production — Comedy/ Drama	0	6	3
DRA	1301	Stagecraft	1	4	3	DRA	1312	Play Production — Musical	0	6	3
DRA	1302	Scene Design	1	4	3	DRA	2204	Special Problems in Drama	1	3	2
DRA	1303	Acting	1	4	3	DRA	2304	Directing	1	4	3
DRA	1304	Advanced Acting	1	4	3	DRA	2414	Film Criticism	3	2	4
DRA	1310	Play Production — One Acts	0	6	3						

MUSIC and DANCE

The music courses are designed to provide opportunities to the greatest number of students to share in the heritage of musical culture and skills. Emphasis is placed on creative participation in performance and upon music as a medium of communication. Music is also studied as a reflection of the cultures that created it — whether present or past.

The dance program provides an opportunity for the student to become acquainted with the habits of a dancer in training and encourages the student to view dance performances critically. By participating in the numerous technique classes offered, the student is given the opportunity to improve his/her own skills of dance (modern and ballet) technique. In addition to technique classes, dance production classes guide the student in the use of basic performance skills, developing in the student a sense of musical interpretation and movement phrasing.

			CLS	LAB	CR				CLS	LAB	CR
MUS	1100	Men's Choir	0	3	1	MUS	1183	Introduction to Modern Dance	0	3	1
MUS	1101	Women's Glee Club	0	3	1	MUS	1184	Modern Dance I	0	3	1
MUS	1104	Class Voice	0	2	1	MUS	1185	Modern Dance II	0	3	1
MUS	1107	Chamber Choir	0	3	1	MUS	1186	Modern Dance III	0	3	1
MUS	1112	Class Strings	0	3	1	MUS	1190	Character Dance	0	3	1
MUS	1117	Wind Ensemble	0	3	1	MUS	1193	Introduction to Ballet	0	3	1
MUS	1127	Orchestra	0	3	1	MUS	1194	Ballet I	0	3	1
MUS	1128	Concert Band	0	4	1	MUS	1195	Ballet II	0	3	1
MUS	1154	Class Piano I	0	3	1	MUS	1196	Ballet III	0	3	1
MUS	1155	Class Piano II	0	3	1	MUS	1197	Ballet Pointe Work	0	3	1
MUS	1156	Class Piano III	0	3	1	MUS	1274	Applied Music II	2	0	2
MUS	1160	Classical & Flamenco Guitar	0	3	1						

			CLS	LAB	CR				CLS	LAB	CR
MUS	1164	Guitar	0	3	1	MUS	1300	Introduction to Music I	3	0	3
MUS	1174	Applied Music I	1	0	1	MUS	1301	Introduction to Music II	3	0	3
MUS	1304	Children's Music I	3	0	3	MUS	2158	Piano Ensemble	0	3	1
MUS	1305	Children's Music II	3	0	3	MUS	2174	Advanced Applied Music I	1	0	1
MUS	1310	Introduction to Music Theory	3	0	3	MUS	2184	Advanced Modern Dance I	0	3	1
MUS	1314	Music Appreciation I	3	0	3	MUS	2185	Advanced Modern Dance II	0	3	1
MUS	1315	Music Appreciation II	3	0	3	MUS	2186	Advanced Modern Dance III	0	3	1
MUS	1316	Music Appreciation III	3	0	3	MUS	2194	Advanced Ballet I	0	3	1
MUS	1324	Recording Studio Tech. I	3	0	3	MUS	2195	Advanced Ballet II	0	3	1
MUS	1325	Recording Studio Tech. II	3	0	3	MUS	2196	Advanced Ballet III	0	3	1
MUS	1326	Recording Studio Tech. III	0	6	3	MUS	2200	Seminar in Music		TBA	2
MUS	1327	Recording Studio Tech. IV	0	6	3	MUS	2204	Special Problems in Music	1	3	2
MUS	1334	Music Manuscript I: Autography & Preparation	2	2	3	MUS	2257	Jazz Piano	1	3	2
MUS	1335	Music Manuscript II	2	2	3	MUS	2274	Advanced Applied Music II	2	0	2
MUS	1404	Music Theory I	3	2	4	MUS	2284	Choreography	0	4	2
MUS	1405	Music Theory II	3	2	4	MUS	2300	Seminar in Music		TBA	3
MUS	1406	Music Theory III	3	2	4	MUS	2338	Opera Workshop	0	6	3
MUS	2000	Seminar in Music		TBA		MUS	2404	History & Lit. of Music I	3	2	4
MUS	2100	Seminar in Music		TBA		MUS	2405	History & Lit. of Music II	3	2	4
MUS	2154	Advanced Class Piano I	0	3	1	MUS	2406	History & Lit. of Music III	3	2	4
MUS	2155	Advanced Class Piano II	0	3	1	MUS	2407	Advanced Music Theory I	3	2	4
MUS	2156	Advanced Class Piano III	0	3	1	MUS	2408	Advanced Music Theory II	3	2	4
						MUS	2409	Advanced Music Theory III	3	2	4

NOTE (1) A maximum of six quarter hours of applied music may be counted toward an A.A. degree.

NOTE (2) A maximum of six quarter hours of applied repertory may be counted toward an A.A. degree.

NOTE (3) A maximum of six quarter hours of choral and/or instrumental ensemble may be counted toward an A.A. degree.

PHYSICAL SCIENCE

The physical science courses are designed to prepare students for the professional courses in science and related areas, to teach the students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data, to be thorough in considering all aspects of a problem; to prepare people to live in a complex society; to impart knowledge of scientific facts; and to promote an understanding of the contributions that physical science has made and is making to the ability to master the environment.

CHEMISTRY

			CLS	LAB	CR
CHM	1500	Introductory Chemistry I	3	4	5
CHM	1501	Introductory Chemistry II	3	4	5
CHM	1502	Introductory Chemistry III	3	4	5
CHM	1504	General Chemistry I*	3	4	5
CHM	1505	General Chemistry II*	3	4	5
CHM	1506	General Chemistry III*	3	4	5
CHM	2304	Special Problems	1	4	3
CHM	2455	Textile Coloring and Testing*	2	4	4
CHM	2604	Quantitative Chemical Analysis*	3	6	6
CHM	2614	Organic Chemistry I*	4	4	6
CHM	2615	Organic Chemistry II*	4	4	6
CHM	2625	Chromatography*	3	6	6
CHM	2626	Optical Methods Chemical Analysis*	3	6	6
CHM	3500	Fire Science Chemistry	3	4	5
CHM	5300	Basic Chemistry	2	2	3

GEOLOGY

			CLS	LAB	CR
GEL	1604	Physical Geology	5	2	6
GEL	2605	Historical Geology	5	2	6

GEOGRAPHY

			CLS	LAB	CR
GEO	1614	Intro. to Physical Geography	5	2	6

PHYSICS

			CLS	LAB	CR
PHY	1300	Science & Society	3	0	3
PHY	1400	Science & Society	3	2	4
PHY	1404	Physics I: Basic Mechanics	3	2	4
PHY	1405	Physics II: Elastic & Thermal Property of Matter	3	2	4
PHY	1406	Physics III: Electricity & Magnetism	3	2	4
PHY	1407	Physics IV: Modern Physics	3	2	4
PHY	2504	General Physics I: Mechanics	4	2	5
PHY	2505	General Physics II: Molecular Physics & Waves	4	2	5
PHY	2506	General Physics III: Electricity & Magnetism	4	2	5
PHY	2507	General Physics IV: Optics & Modern Physics	4	2	5
PHY	3324	Radiation Physics I	2	2	3
PHY	3325	Radiation Physics II	2	2	3
PHY	3414	Physics of Respiratory Therapy	3	2	4
PHY	5304	Shop Science I	2	2	3
PHY	5305	Shop Science II	2	2	3

*NOTE:

The Associate in Arts degree in Chemical Technology is no longer offered. However it is possible for the students to concentrate their efforts in chemistry preparing to transfer to a 4 year Chemistry/Chemical Engineering program or entering the chemical industry after receiving the transfer Associate in Arts degree.

To accomplish this the student should take the chemistry courses marked by the asterisk and MAT 1514, MAT 1515, MAT 1516 and PHY 1404, PHY 1405, PHY 1406 or PHY 2504, PHY 2505, PHY 2506.

NOTE: Courses beginning with a 1 or 2 are considered transfer courses.

BEHAVIORAL AND SOCIAL SCIENCES

The courses offered in this department are designed to enable students to understand the social, cultural, psychological, political and historical development of society. Emphasis is placed upon how to apply social science principles to modern life.

ANTHROPOLOGY						GENERAL COLLEGE COURSES						
ANT	1501	People & Cultures of World	CLS	LAB	CR					CLS	LAB	CR
			5	0	5	GEN	1512	Divorce		5	0	5
ANT	1511	Humon Origins	5	0	5	GEN	1514	World Wor II		5	0	5
						GEN	2510	American Civil Wor		5	0	5
HISTORY						POLITICAL SCIENCE						
			CLS	LAB	CR					CLS	LAB	CR
HIS	1500	World Civilization I	5	0	5							
HIS	1501	World Civilization II	5	0	5	POL	1502	American Politics		5	0	5
HIS	1502	American History I	5	0	5	POL	1510	Intro. to Comporotive Politics		5	0	5
HIS	1503	American History II	5	0	5	POL	1511	Introduction to Internationol				
HIS	1510	American Civil War	5	0	5			Relotions		5	0	5
HIS	1520	Block History I	5	0	5	POL	2104	-2504 Special Topics in				
HIS	1521	Block History II	5	0	5			Political Science		1 to 5		
HIS	2104	-2504 Special Topics in				POL	2500	State and Urban Politics		5	0	5
		History		1 to 5		POL	2501	Politicol Ideologies		5	0	5
HIS	2500	North Carolino History	5	0	5							
HIS	2520	Oriental Civilizations	5	0	5	SOCIOLOGY						
HIS	2530	Russion History	5	0	5					CLS	LAB	CR
PSYCHOLOGY						SOC	1301	Group Interaction		3	0	3
			CLS	LAB	CR	SOC	1500	Sociology of the Family		5	0	5
PSY	2500	Educotional Psychology	5	0	5	SOC	2501	People & their Environments		5	0	5
PSY	2504	General Psychology	5	0	5	SOC	2502	Women in Society		5	0	5
PSY	2505	Humon Development	5	0	5	SOC	2514	Introduction to Sociology		5	0	5
PSY	2514	Abnormal Psychology	5	0	5	SOC	2515	Social Problems		5	0	5
PSY	2524	Mental Retordation	5	0	5	SOC	2524	Special Problems of				
PSY	2536	Special Problems in						Sociology		5	0	5
		Psychology		5	0	SOC	3501	Social Reolities I		5	0	5
PSY	3314	Principles of Humonistic				SOC	3502	Social Reolities II		5	0	5
		Psychology		3	0	SOC	4300	Social ond Minority Issues		3	0	3
						EDUCATION						
			CLS	LAB	CR							
EDU	2500	Introduction to Education	5	0	5							

NOTE: Courses beginning with a 1 or a 2 are considered transfer courses.

WELDING

Many of the parts used in missiles, automobiles, airplanes, refrigerators and thousands of other products are joined by a widely-used process known as welding. Welders join metals by applying intense heat and sometimes pressure to melt the edges to form a permanent bond.

Welding provides the opportunity to travel and make good wages at the same time. Skilled welders work on bridges, buildings, dams and other construction projects around the globe. A well-trained welder may obtain one of the many jobs available locally for a person skilled in this trade.

DESCRIPTION OF CURRICULUM

The curriculum of Central Piedmont Community College provides the opportunity for students to develop the skills necessary in the operation of a variety of types of welding equipment. Other courses such as shop mathematics and blueprint reading play important parts in developing good welders. A graduate from this curriculum will receive a diploma from the College.

Suggested Sequence of Required Courses For Welding

FIRST QUARTER					SECOND QUARTER						
COURSE TITLE			HRS/WK		QTR HRS	COURSE TITLE			HRS/WK		QTR HRS
			CLS	LAB	CR				CLS	LAB	CR
WLD	5810	Oxyocetylene Welding & Cutting	4	12	8	WLD	5820	Arc Welding	4	12	8
		OR						OR			
(WLD	5411	Oxyocetylene Welding & Cutting I 2-6-4*)				(WLD	5421	Arc Welding I 2-6-4*)			
						(WLD	5422	Arc Welding II 2-6-4*)			
(WLD	5412	Oxyocetylene Welding & Cutting II 2-6-4*)				DFT	5400	Blueprint Reoding ond Sketching	3	2	4
DFT	5300	Bosic Blueprint Reoding	3	0	3	MAT	5305	Shop Mothemotics II	3	0	3
MAT	5304	Shop Mothemotics I	3	0	3	MEC	5215	Heat Treatment of Metals II	1	3	2
MEC	5214	Heat Treatment of Metals I	1	3	2			Elective	3	0	3
		Elective	3	0	3						20
					19						

THIRD QUARTER					FOURTH QUARTER				
COURSE TITLE		HRS/WK		QTR	COURSE TITLE		HRS/WK		QTR
CLS	LAB	CR			CLS	LAB	CR		
WLD 5830	Inert Gas Welding	4	12	8	WLD 5654	Commercial & Industrial Practices	2	12	6
	OR					OR			
(WLD 5431	Inert Gas Welding I 2-6-4*)				(WLD 5355	Commercial & Industrial Practices I 1-6-3*)			
(WLD 5432	Inert Gas Welding II 2-6-4*)				(WLD 5356	Commercial & Industrial Practices II 1-6-3*)			
WLD 5240	Introductory Pipe Welding	1	3	2	WLD 5267	Certification Practice	0	6	2
PHY 5304	Shop Science I	2	2	3	WLD 5268	Certification Testing	2	0	2
COM 5500	Communications Skills	5	0	5	PHY 5305	Shop Science II	2	2	3
				18	HSA 5200	Human Relations	2	0	2
					MGT 5200	Shop Management	2	0	2
									17
RECOMMENDED ELECTIVES					CHM 5300	Basic Chemistry -	2	2	3
MAC 5201	Machine Shop Practices	1	3	2	PME 5211	Small Engine Repair I	1	3	2
ELN 3300	Electrical Installation & Safety	3	0	3	WLD 5404	Pipe Welding	2	6	4

*For Evening Students

NOTE: STUDENTS MUST FURNISH THEIR OWN PERSONAL PROTECTIVE CLOTHING AND HAND TOOLS.

MEDICAL OFFICE ASSISTING TECHNOLOGY

The Medical Office Assisting Technology is a two year curriculum of technical education designed to prepare the individual to assist the physician in private offices, clinics or other health related institutions. The curriculum provides a technical background of administrative, clinical and laboratory knowledge. The graduate will be able to take responsibility in the organization and management of a medical facility.

Any graduate of the existing one year Medical Office Assisting Program at Central Piedmont Community College will be admitted without further testing or examination with advanced standing.

Suggested Sequence of Required Courses for Medical Office Assisting Technology

FIRST QUARTER					SECOND QUARTER								
COURSE TITLE		HOURS/WEEK		QTR	COURSE TITLE		HOURS/WEEK		QTR				
		CLS	LAB	CLN	CR			CLS	LAB	CLN	CR		
MED	5304	Orientation to Health Careers	3	0	0	3	MED	3305	Medical Terminology & Vocabulary II	3	0	0	3
MED	3304	Medical Terminology & Vocabulary I	3	0	0	3	MED	3404	Medical Economics	3	2	0	4
SEC	3400	Typing I	3	2	0	4	COM	1304	Introduction to Communication	3	0	0	3
BIO	3600	Basic Health Science	5	2	0	6	MED	3400	Medical Office Administration I	2	4	0	4
			14	4	0	16	MED	4302	Ethics and Law	3	0	0	3
									14	6	0	17	
THIRD QUARTER					FOURTH QUARTER								
MED	3315	Medical Office Administration II	3	0	0	3	MED	5807	Medical Office Practice	0	0	24	8
MED	5704	Examination Room Procedures	3	8	0	7	MED	5414	Medical Office Assisting Seminar	4	0	0	4
MED	5614	Laboratory Procedures	3	6	0	6			4	0	24	12	
MED	3306	Medical Terminology & Vocabulary III	3	0	0	3							
			12	14	0	19							
FIFTH QUARTER					SIXTH QUARTER								
COM	3305	Communications II	3	0	0	3	COM	3306	Communications III	3	0	0	3
PSY	2504	General Psychology	5	0	0	5	BUS	4330	Supervision	3	0	0	3
MRT	3424	Principles of Disease	4	0	0	4	MED	3300	Drug Therapy	3	0	0	3
MED	5514	Symptomatology	5	0	0	5	SOC	2514	Introduction to Sociology	5	0	0	5
			17	0	0	17			14	0	0	14	

After completing the first six quarters, it is the student's responsibility to obtain an approved position before registering for the seventh quarter.

SEVENTH QUARTER					SUGGESTED ELECTIVES				
MED 5615	Clinical Education Elective	3	0	30	6	SEC 3320	Personality Development		
		3	0	0	3	SEC 3405	Typing II		
		6	0	30	9	SEC 3304	Office Machines: Calculators and Duplicators:		
						PSY 2505	Human Development		
						EDP 3302	Automation Survey in Medical Facilities		

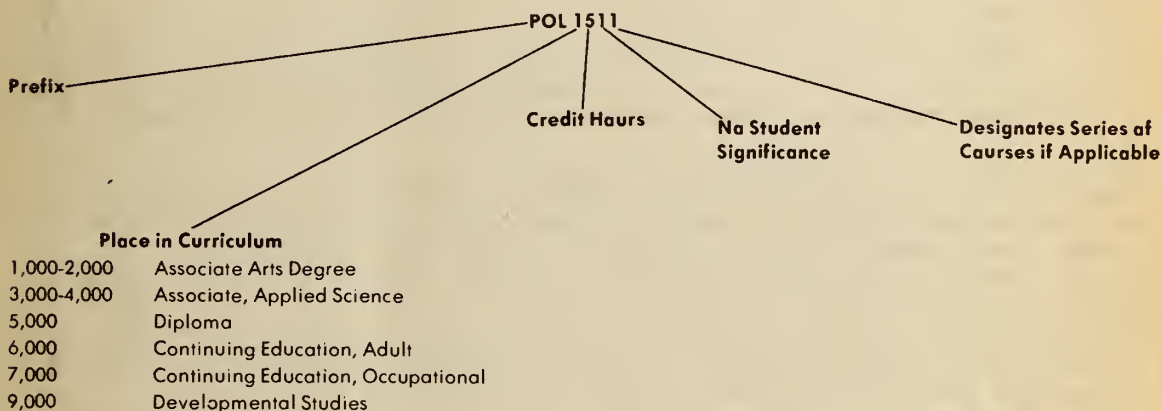
COURSE DESIGNATION, TITLE AND DESCRIPTION

Each course listed begins with three capitalized letters followed by a four digit number. This is the course prefix and number. The number shows the course's position in the curriculum. Following the number is the title of the course and a brief description. Following the description may be a PR or a CR or both. This means that there is a course that is a prerequisite (P.R.) or a corequisite (C.R.) The numbers in parentheses at the end of the course description indicate the number of lecture, laboratory, and clinic hours. The last number indicates the number of credit hours earned for completion of the course. The courses are listed alphabetically by prefix letters and numerically under each prefix. The course prefix indicates the program area (i.e., POL=Political Science course). The course number describes the course (see diagram below). The **first digit** to the left indicates the area in which the course is offered, such as a "1" indicates a course in first year of Associate in Arts degree, a "2" indicates second year of Associate in Arts degree, a "3" indicates first year of Associate in Applied Science degree, a "4" indicates second year of Associate in Applied Science degree, a "5" indicates a course in the diploma program, a "6" indicates a course in Continuing Education Adult Education program, a "7" indicates a course in Continuing Education Occupational Extension program, and a "9" indicates a course in Developmental Studies program.

The **second digit** indicates the number of credit hours granted for the course.

The **third digit** has no significance.

The **fourth digit** indicates whether there is a series of courses.



MEANING OF PRE-REQUISITE (P.R.) AND CO-REQUISITE (C.R.)

At the end of each course description pre-requisites or co-requisites will be listed, if there are any. Thus, MAT 3505 Technical Mathematics II, at the end of the course description says "P.R. MAT 3504." This means that MAT 3504 Technical Mathematics I must be completed successfully before one may take MAT 3505 Technical Mathematics II.

Co-requisite means at the same time or before. Thus ELN 3514 Basic Electricity (D.C.) has at the end of its course description, "C.R. MAT 3504." This means that one must either be taking MAT 3504 at the same time with ELN 3514 or have completed MAT 3504 prior to taking ELN 3514.



ACCOUNTING

ACC 1604 PRINCIPLES OF ACCOUNTING I: In this study of basic accounting principles and procedures, the student will solve practical problems for both service and merchandising businesses. The student will learn how to analyze and record various transactions and prepare financial statements for an accounting period. After completion of this basic study of the accounting cycle, the student will study accounting functions related to more specialized areas such as notes, uncollectible accounts, inventories, plant assets, depreciation and payrolls. (5-2) 6

ACC 1605 PRINCIPLES OF ACCOUNTING II: In this continuing study of accounting principles and procedures, the student solves a variety of problems involving the accumulation and interpretation of accounting data. Principles and procedures of accounting for partnerships and corporations are included, along with the fundamentals of cost accounting, the statement of changes in financial position and the analysis of financial statements. P.R. ACC 1604 or consent. (5-2) 6

ACC 2626 INTERMEDIATE ACCOUNTING I: In addition to reviewing the accounting cycle, the student will study the following topics: development of accounting standards; theory underlying financial accounting; preparation of financial statements; monetary assets; inventories; and liabilities. P.R. ACC 1605. (5-2) 6

ACC 2627 INTERMEDIATE ACCOUNTING II: In this continuing study of intermediate accounting, the student will study various topics including plant assets, intangible assets, stockholders' equity, investments in stocks and bonds, revenue recognition, income taxes, pensions, leases and financial statement analysis. P.R. ACC 2626. (5-2) 6

ACC 3304 MANAGERIAL ACCOUNTING: The student will learn to use accounting data for planning and control. The student will be acquainted with the stewardship responsibilities of management, the directing and problem-solving functions of accounting in relation to current planning and control, and the evaluation of performance. Special decisions and long-range planning will be emphasized. Stress will be on analysis rather than recordkeeping. P.R. ACC 1604, ACC 1605 or consent of department head. (3-0) 3

ACC 3404 GOVERNMENTAL ACCOUNTING: The student will learn how to set up a general ledger for a governmental unit. The student will also learn how to set up a revenue ledger, budgetary ledger, and fixed assets ledger and to make the necessary journal entries and postings for operations, adjustments, and closings of the various funds including General, Special, Debt, Service, Assessment, Trust, Agency, Intragovernmental Service, Capital Projects and Enterprise Funds. P.R. ACC 1605. (3-2) 4

ACC 3434 HOTEL/RESTAURANT ACCOUNTING: The students will demonstrate their ability to apply generally accepted accounting principles to the hospitality industry. Problems will be studied and solved in the following areas: uniform system of accounts for hotels; basic control tenets; food, beverage and labor accounting principles and controls; specialized journals and ledgers; financial statements; voucher systems; budget planning; and credit systems. P.R. ACC 1604. (3-2) 4

ACC 3500 SMALL BUSINESS ACCOUNTING: Upon satisfactory completion of this course, the student should be able to describe the different types of business enterprise; describe the basic accounting cycle; demonstrate an understanding of financial analysis by calculating cash flow, working capital, current ratio, return on investment, earnings per share, inventory turnovers, etc.; establish, control and reconcile a bank account; calculate payrolls; complete required governmental reports such as quarterly returns; describe inventory control and methods of inventory; calculate asset depreciation; identify license requirements; and describe outside professional help available and when it should be used. (5-0) 5

ACC 3600 SECRETARIAL ACCOUNTING: After successful completion of this course, the student should be able to analyze, journalize, and post business transactions for service and merchandising organizations and complete the end-of-period financial statements. In addition to this basic study of the accounting cycle, the student will study other areas such as payrolls, bank reconciliations and petty cash funds. (5-2) 6

ACC 4338 ACCOUNTING PROBLEMS: The student will study APB opinions, research studies and FASB pronouncements while solving a wide variety of accounting problems adapted from recent CPA examinations. Worksheet techniques leading to efficient, accurate solutions will be developed. (3-0) 3

ACC 4364 BUDGET AND RECORDKEEPING: When this course is completed, the student should be able to use historical accounting records to make future revenues and expenses; prepare budgets and use them for control purposes; apply budget procedures for departmental evaluation; prepare management reports and recommendations based on the budget; and analyze variances between budgeted and actual figures to determine responsibility for control. P.R. ACC 1604. (3-0) 3

ACC 4395 INDIVIDUAL STUDY — ACCOUNTING: This course provides students an opportunity to develop a special program of study to fill a need not met by other courses. Enrollment provides access to the resources and facilities of the entire institution. The student works under the supervision of a sponsoring faculty member. Approval of the sponsor and department head is required. (3-0) 3

ACC 4404 AUDITING: The student will study the theories and practices of auditing and also the generally accepted auditing standards and rules of professional conduct. The student will solve numerous problems illustrating specific techniques of auditing various general ledger accounts. These problems will develop internal auditing concepts and procedures as well as the public accounting viewpoint. Current trends in financial statement preparation will be reviewed. P.R. ACC 2627. (3-2) 4

ACC 4425 ADVANCED TAXATION: In this study of federal and state income tax laws and regulations, the student will demonstrate satisfactory competency in preparing business returns and fiduciary returns. Topics include income tax withholding; reporting business or professional income for individuals, partnerships, and corporations; researching and solving tax problems; and applying federal and state laws for gifts and estates. P.R. ACC 1605. (3-2) 4

ACC 4434 INCOME TAXES — INDIVIDUAL: Students will study current federal and state income tax laws and demonstrate their ability in finding, interpreting, and applying the relevant laws in the preparation of individual income tax returns of moderate complexity. These returns will involve supporting schedules and forms necessary for reporting income, deductions and tax computations. The student will also demonstrate competency in solving problems in tax planning, minimizing taxes for the average taxpayer, and preparing declarations of estimated tax, extensions of time to file and amended tax returns. (3-2) 4

ACC 4444 COST ACCOUNTING: In this study of manufacturing cost systems, the student will study a variety of problems illustrating the principles and procedures of job order and process costing operations. The use of standard costs and other data for management control is included. The student will calculate and apply estimated overhead rates using a variety of bases. P.R. ACC 1605. (3-2) 4

ACC 4447 ADVANCED ACCOUNTING: The student will solve a wide variety of problems illustrating advanced applications of accounting principles and procedures. Topics include parent-subsidiary consolidations, partnerships, installment sales accounting, branch accounting, governmental accounting and accounting for estates and trusts. Emphasis is placed on the development of worksheet techniques in problem solving. APB opinions and FASB pronouncements are related to the preceding topics. P.R. ACC 2627. (3-2) 4

ACC 5610 MEDICAL ACCOUNTING: Upon completion of this course, the student will be able to apply the following accounting procedures to the medical profession: record transactions in a combined cash journal and post to the general ledger; prepare a trial balance, income statement and balance sheet; maintain and prove a patients' ledger; establish and replenish a petty cash fund; open a checking account, prepare deposit tickets, write checks and reconcile a bank statement; and prepare a payroll record and journalize entries to record the payroll and the employer's tax expense. The student is required to demonstrate knowledge in the above areas by completing a practice set applicable to the medical profession. (5-2) 6

ADVERTISING DESIGN IN COMMERCIAL ART

ADV 4204 ADVERTISING THESIS: Upon completion of this course, the student should be able to: (1) identify his or her immediate and long-range vocational objectives; (2) prepare and present a portfolio to prospective employers in a professional manner; and (3) prepare a resume of personal and professional qualifications. P.R. ADV 4305, VCO 4415. (0-4) 2

ADV 4214 PROFESSIONAL PRACTICES AND PROCEDURES: Upon completion of this course the student should be able to describe the organization and operations of various businesses concerned with advertising or production and reproduction. The student will analyze buying, selling and pricing practices of these businesses and will understand legal responsibilities of private ownership of these businesses, partnerships, and corporations. P.R. ADV 4305, VCO 4415. (1-2) 2

ADV 4300 ADVERTISING PRINCIPLES: Upon completion of this course, the student should be able to: (1) describe the relationship of social and economic conditions to today's advertising; (2) identify the advantages and limitations of major communications media; (3) describe the operation and organization of an advertising agency; (4) discuss the advertising spiral; and (5) plan a small multi-media advertising campaign. (3-0) 3

ADV 4304 ADVERTISING STUDIO I: Upon completion of this course the student should be able to: (1) produce simple layouts for newspaper and magazine advertisements; (2) use transfer lettering and tint screens in a professional manner; (3) produce newspaper advertisements using clipper art; (4) use photo-stat machines and the photo-typewriter properly; and (5) cut amber lith overlays for multi colored art. P.R. VCO 3316, VCO 3326, and VCO 3305. (2-2) 3

ADV 4305 ADVERTISING STUDIO II: Upon completion of this course the student should be able to: (1) prepare camera-ready art with a variety of half-tone finishes; (2) use the air brush properly; (3) plan and produce comprehensives and camera-ready art for booklets, folders, or brochures; (4) understand the proper use of paper and ink in conjunction with visual communications of all types; and (5) prepare camera-ready art for a direct-mail advertisement or announcement. P.R. ADV 4304, VCO 3306. (2-2) 3

ADV 4306 ADVERTISING STUDIO III: Upon completion of this course the student should be able to: (1) complete layouts, comprehensive and camera-ready art for full color reproduction; (2) describe the four-color reproduction process; (3) plan and execute an advertising campaign using a variety of communications media including newspaper ads, direct mail, magazines, television, point-of purchase and outdoor advertising; and (4) prepare a cost study for the above campaign. P.R. ADV 4305. (2-2) 3

ENVIRONMENTAL SYSTEMS

AHR 4304 INTRODUCTION TO PSYCHROMETRICS: Upon completion of this course, the student will be able to: (1) describe the basic properties of air; (2) describe the changes in volume and pressure with temperature; (3) describe dew point temperature; (4) describe humidity ratio, sensible heat, latent heat and their relationship with each other; and (5) solve simple problems using the psychrometric chart. P.R. AHR 5411. (3-0) 3

AHR 4361 RESIDENTIAL AIR DISTRIBUTION AND BALANCE: Upon completion of this course, the student should be able to: (1) demonstrate a comprehensive knowledge and understanding of air and its behavior in a duct or residential air distribution system; (2) design any of the four basic duct systems used in residences; (3) design a return system for residences; (4) estimate blower capacity; (5) estimate and measure friction loss; (6) correctly size an air distribution system for a residence. P.R.* (2-2) 3

AHR 4372 HYDRONIC DISTRIBUTION SYSTEMS DESIGN: Upon completion of this course, the student should be able to: (1) select boiler and other components for a complete system utilizing charts, tables and catalog information; (2) design commonly used hydronic systems and do pipe sizing by accepted methods; (3) determine water temperatures and quantities to meet calculated load conditions. P.R.* (3-0) 3

AHR 4373 HYDRONIC SYSTEMS BALANCE: Upon completion of this course, the student should be able to: (1) use proper instruments to test, adjust and balance a system; (2) analyze the static and dynamic pressures and pumping power requirements for both open and closed systems; (3) analyze parallel and series application of pumps; (4) analyze zone control methods and related equipment; (5) use pump and system curves to analyze system performance; (6) choose the best design for a specific application; (7) measure water temperature at various terminal units to determine BTU output; (8) construct a system curve based on measured water flow; (9) use pump curves to estimate flow rate and head; (10) measure water flow, temperature and efficiency of a cooling tower application; (11) test, balance and adjust tower for optimum performance. P.R.* (2-2) 3

AHR 4382 AIR CONDITIONING ESTIMATES AND CONTRACTS: Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of various forms used in estimating; (2) prepare an annual and monthly cost budget for a contracting business; (3) formulate a Profit and Loss Statement; (4) compose a balance sheet; (5) given the cost of a job, add a percentage for overhead and profit, accurately estimate the proper selling price of said job; (6) given the total selling price of a job, the percentage of overhead and profit, accurately estimate the cost of material, labor, sub contracts, etc.; (7) choose the "break-even" point of a stated dollar volume of business when overhead is known; (8) evaluate several contracts and compare a contract to suit the individual needs of the student; (9) prepare the estimate, proposal and contract in a manner to be compared with actual costs and estimated overhead and profit. P.R. None. (3-0) 3

AHR 4451 COMMERCIAL REFRIGERATION SYSTEMS DESIGN: Upon completion of this course, the student should be able to: (1) estimate the cooling load requirements for any known commercial refrigeration application; (2) select proper equipment and controls to meet load requirements; (3) design and size a refrigeration piping system including piping accessories and controls. P.R.* (4-0) 4

- AHR 4452 RESIDENTIAL AIR CONDITIONING SYSTEMS DESIGN:** Upon completion of this course, the student should be able to: (1) estimate the heating and/or cooling needs of a residence; (2) select the proper size of heating and/or cooling equipment required to meet the estimated needs; (3) determine air quantities on a room by room basis; (4) select room air outlets and returns and size duct work for simple systems. P.R.* (3-2) 4
- AHR 4453 COMMERCIAL AIR CONDITIONING SYSTEMS DESIGN:** Upon completion of this course, the student should be able to: (1) estimate the heating and/or cooling requirements of a commercial-type structure; (2) choose the proper size of heating and/or cooling equipment to meet these requirements; (3) determine air mixture conditions entering and leaving cooling coil; (4) use psychrometric chart to determine conditions of mixed air flow, and determine sensible and latent heat loads of air quantities; (5) determine air quantities and mixture conditions based upon calculated loads. P.R.* (3-2) 4
- AHR 4462 COMMERCIAL AIR DISTRIBUTION AND BALANCE:** Upon completion of this course, the student should be able to: (1) demonstrate a comprehensive knowledge and understanding of air and its behavior in a commercial air distribution system; (2) demonstrate a basic knowledge of the types and classes of fans and applications; (3) use fan charts to select fans and analyze air systems; (4) demonstrate a knowledge of basic air distribution systems including duct sizing methods and proper selection of air outlets and returns. P.R.* (3-2) 4
- AHR 4463 CONTROL SYSTEMS:** Upon completion of this course, the student should be able to: (1) interpret symbols on a control schematic diagram; (2) compose a control schematic diagram; (3) compare various control systems and select the one best suited for a specific application; (4) prepare a control diagram for a refrigeration system; (5) design a system of controls for an air conditioning system; (6) properly assemble the components so as to have an operating control system; (7) test and analyze control circuits; (8) adjust various controls in a system. P.R.* (3-2) 4
- AHR 4490 SOLAR HEATING AND COOLING SYSTEMS I:** Upon completion of this course, the student should be able to: (1) describe the basic causes of our present energy scarcity and the advantages and disadvantages of solar energy; (2) compare the latitudinal and seasonal variations of solar radiation and be able to use solar insolation tables; (3) indicate the best applications for flat plate and concentrating collectors; (4) use efficiency charts for flat plate collectors; (5) draw piping and duct schematics for typical systems, and determine flow rates and storage requirements; (6) describe the types of solar cooling systems. P.R. None. (4-0) 4
- AHR 4491 SOLAR HEATING AND COOLING SYSTEMS II:** Upon completion of this course, the student will be able to: (1) estimate the energy harvest for a collector using solar energy tables and efficiency information; (2) estimate space heating requirements using degree-day tables; (3) evaluate ways by which solar energy collected can be increased by collector design and operating conditions; (4) recognize the types of control systems needed for different solar systems; (5) estimate the fraction of solar energy supplied by the use of the f-chart; (6) discuss the non-thermal application of solar energy such as photo voltaics and wind power. P.R. AHR 4490, AHR 4372, AHR 4452, AHR 4453. (4-0) 4
- AHR 4571 INSTALLATION AND SERVICE PROBLEMS:** Upon completion of this course, the student should be able to: (1) use a variety of test instruments; (2) estimate capacity requirements of various components and equipment; (3) select proper location for various components; (4) examine various systems and solve service problems on some; (5) using a variety of shop and field equipment, test and repair lab units; (6) evaluate insulation requirements; (7) compare piping techniques; (8) select system accessories. P.R.* (2-6) 5
- AHR 5204 WIRING DIAGRAMS AND TROUBLESHOOTING FOR A/C SYSTEMS:** Upon completion of this course, the student should be able to: (1) identify the more commonly used control components, their symbols, and describe their function in the control system; (2) read wiring diagrams; and (3) trouble-shoot and replace controls in a control system. P.R. AHR 5314. (1-3) 2
- AHR 5301 INTRODUCTION TO AUTOMATIC CONTROLS:** Upon completion of this course, the student should be able to: (1) demonstrate a workable knowledge of electrical terms and symbols; (2) have a working knowledge of Ohm's Law and Kirchhoff's Law; (3) draw series and parallel circuits; (4) understand the Wheatstone bridge; (5) understand magnetism; (6) describe fundamentals for current generation; and (7) understand the function of simple electrical controls as they are used in air conditioning and refrigeration systems. P.R. None. (3-0) 3
- AHR 5313 REFRIGERATION SERVICE PRINCIPLES:** Upon completion of this course, the student should be able to: (1) properly use the gauge manifold; (2) analyze several operating refrigeration systems and measure the degree of efficiency of each; (3) inspect, remove and re-install various sub assemblies of the system; (4) examine all components; (5) distinguish and replace faulty system components; (6) test entire system and place system into operation. C.R. AHR 5411, AHR 5412, AHR 5301, or one year field experience in lieu of AHR 5412. (2-3) 3
- AHR 5314 AUTOMATIC CONTROLS:** Upon completion of this course, the student should be able to: (1) have an understanding of and be able to use electrical measuring instruments; (2) identify and describe the function and operation of basic control devices; (3) install and wire these basic controls into a control circuit; (4) select the proper type and size of wire for each application; and (5) read basic pictorial wiring diagrams. P.R. AHR 5301. (2-3) 3
- AHR 5321 COMMERCIAL REFRIGERATION INSTALLATION:** Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of the various types and applications of commercial refrigeration installations; (2) compare various defrost methods; (3) select correct safety and operating controls for a given application; (4) construct the refrigerant piping system; (5) charge system with proper amount of refrigerant and test for leaks; (6) start up system. C.R. AHR 5324. P.R. AHR 5313 or one year field experience, AHR 5411. (2-3) 3
- AHR 5322 COMMERCIAL REFRIGERATION SERVICE:** Upon completion of this course the student should be able to: (1) compare various commercial refrigeration systems; (2) use necessary tools and apply service techniques taught in this course; (3) test for and repair refrigerant leaks; (4) analyze system for malfunction; (5) choose and install correct replacement component(s); (6) test for proper operation of entire system; (7) employ special equipment to dehydrate and evacuate system; (8) install correct refrigerant charge; (9) start system; (10) evaluate system operation. P.R. AHR 5321. (2-3) 3
- AHR 5323 OIL BURNERS:** Upon completion of this course, the student should be able to: (1) differentiate between the various types of oil burners; (2) test and evaluate the high pressure type burners; (3) completely assemble a high pressure oil burner; (4) interpret an electrical diagram for an oil burner assembly; (5) prepare the oil burner for testing; (6) measure combustion efficiency; (7) set up burner for maximum efficiency with minimum air pollution. P.R. None. (2-3) 3
- AHR 5324 ENVIRONMENTAL SYSTEMS BLUEPRINT READING:** Upon completion of this course, the student should be able to: (1) interpret a simple residential blueprint; (2) use plans, schedules and tables; (3) make free-hand sketches of objects; (4) demonstrate a knowledge of comprehension of notes, lines, projections, and dimensioning procedures. P.R. None. (3-0) 3
- AHR 5331 AIR CONDITIONING — RESIDENTIAL:** Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of the terminology used in the trade; (2) diagram a complete refrigeration cycle, properly identifying all components; (3) choose all necessary major components; (4) differentiate between water and air-cooled equipment;

(5) design a simple residential air conditioning system and select all components; (6) assemble the system; (7) employ safety measures; (8) compare remote and self-contained systems; (9) compare various air moving equipment. P.R. AHR 5411, AHR 5314, AHR 5313 or one year field experience in lieu of AHR 5313. (2-3) 3

AHR 5332 AIR CONDITIONING — COMMERCIAL: Upon completion of this course the student should be able to: (1) demonstrate full comprehension of the various commercial air conditioning systems; (2) disassemble and reassemble a compressor unit; (3) inspect, test and analyze the entire system; (4) evaluate water cooled towers; (5) select all components necessary and diagram a complete air cooled and water cooled commercial air conditioning system; (6) solve various service problems on systems; (7) compare several piping systems and evaluate each for best performance; (8) appraise several different air distribution systems; (9) solve air distribution problems on lab units; (10) start-up and measure system performance. P.R. AHR 5331. (2-3) 3

AHR 5333 LIQUID HEAT — ONE PIPE SYSTEMS: Upon completion of this course the student should be able to: (1) illustrate the various one pipe systems; (2) select all components for either type of one pipe system; (3) design two types of one pipe systems; (4) analyze and test a one pipe system; (5) solve various problems which may be found in a typical one pipe system; (6) distinguish between types of valves and their usage; (7) select pumps from manufacturers' catalogs. P.R. None. (2-3) 3

AHR 5334 LIQUID HEAT — TWO PIPE SYSTEMS: Upon completion of this course the student should be able to: (1) illustrate the various two pipe systems; (2) select all components for either type of a two-pipe system; (3) design two types of two pipe systems; (4) determine method for measuring water flow in an operating two pipe system; (5) solve various problems which may be found in a typical two pipe system; (6) demonstrate comprehension of the correct piping procedures for wet heat system; (7) prepare a diagram indicating safety and operating controls for a two pipe liquid heat system. P.R. AHR 5323. (2-3) 3

AHR 5341 GAS HEAT: Upon completion of this course the student should be able to: (1) differentiate between the various types of gas furnaces; (2) plan the installation of a given gas furnace; (3) understand operating and safety controls; (4) properly design the gas piping system; (5) test vent and test gas piping for leaks and proper operation; (6) dismantle entire furnace, evaluate the condition of same, repair or replace faulty material(s) and reassemble the complete unit and all components; (7) start-up the completed installation; (8) demonstrate comprehension of safety codes; (9) measure combustion efficiency. P.R. AHR 5314. (2-3) 3

AHR 5342 ELECTRIC HEAT: Upon completion of this course the student should be able to: (1) calculate the heat loss in wattage on a room to room basis for a structure; (2) select the most appropriate type of system for a particular application; (3) choose the correct controls for the system selected; (4) design a simple system; (5) assemble all components and install same; (6) inspect and test systems and components for safe and proper operation; (7) solve problems with system components; (8) estimate approximate annual cost of operation; (10) measure efficiency, voltage and wattage or current draw of either system. P.R. AHR 5314. (2-3) 3

AHR 5394 MECHANICAL CODES I — AIR CONDITIONING CODE: Upon completion of this course the student should be able to: (1) demonstrate a comprehensive understanding of the North Carolina Building Code relating to air conditioning in residences and commercial buildings; (2) compare the systematic methods of designing and sizing an air conditioning system; (3) evaluate the systematic methods of designing, sizing and installing the refrigerant piping and condensate drain(s); (4) employ the applicable standards to the installation of all air conditioning systems and equipment. P.R.* (3-0) 3

AHR 5411 REFRIGERATION THEORY: Upon completion of this course the student should be able to: (1) analyze the elements of thermodynamics; (2) evaluate pressure-temperature relationships; (3) compare Boyle's Law and Charles' Law; (4) design a simple refrigeration cycle. P.R. None. (4-0) 4

AHR 5412 REFRIGERATION SHOP PRACTICES: Upon completion of this course the student should be able to: (1) select the correct tubing for refrigerant use; (2) properly bend tubing; (3) flare and swage tubing; (4) use various solders and techniques in making a series of soldered connections; (5) construct a small piping system; (6) use a gauge manifold; (7) examine tubing or piping system for leaks utilizing at least three leak detection methods. C.R. AHR 5411, P.R. None. (2-6) 4

AHR 5443 ALL WEATHER SYSTEMS — CONVENTIONAL: Upon completion of this course the student should be able to: (1) demonstrate a thorough comprehension of the application of both heating and cooling into one single system; (2) compare the various combinations of oil-electric, gas-electric, all electric and other available combination systems; (3) select the proper safety and operating controls for either type system; (4) assemble all equipment and components and construct on all weather system of conventional type; (5) inspect and test systems; (6) solve service problems; (7) revise improperly installed systems; (8) measure and evaluate the overall performance of an all weather conventional type system. P.R. AHR 5411, AHR 5204. (3-3) 4

AHR 5444 ALL WEATHER SYSTEMS — HEAT PUMPS: Upon completion of this course the student should be able to: (1) construct a diagram of refrigerant cycle; (2) select all components necessary to construct a heat pump cycle and compare an electrical diagram employing all necessary operating and safety controls; (3) practice service procedures on lab models; (4) prepare a list of advantages and disadvantages of using a heat pump. P.R. AHR 5204. (2-6) 4

AHR 5495 DUCT DESIGN II — ROUND DUCT: Upon completion of this course the student should be able to: (1) measure, design and construct no less than ten different sizes of round metal duct; (2) construct round duct; (3) select and construct transition fittings; (4) design and construct 45 and 90 degree elbows. P.R. AHR 5594. (3-3) 4

AHR 5594 DUCT DESIGN I — RECTANGULAR DUCT: Upon completion of this course the student should be able to: (1) identify correctly and safely all of the hand tools normally found in a sheet metal shop; (2) identify correctly and safely operate all of the metal working machinery usually found in the average sheet metal shop; (3) measure, diagram, cut out and construct nine different types of "seams" or "lock seams" and different types of "cleats" essential to the fabrication and installation of metal ductwork; (4) design and construct different rectangular and/or square sections of duct and/or fittings, using various gauges of sheet metal. P.R. DFT 4254 and AHR 5324. (3-6) 5

*P.R. Completion of AHR Diploma Program at CPCC. Considerable experience in the environmental systems industry may be substituted with permission of the program director.

ANTHROPOLOGY

ANT 1501 PEOPLE AND CULTURES OF THE WORLD: Upon completion of this course, the student should be able to demonstrate a knowledge of linguistics, subsistence technology, marriage-family-kinship systems of selected preliterate societies. The student should further demonstrate a knowledge of stratification systems, religious systems, and economic institutions of the preliterate societies studied. A cross-cultural approach will be utilized. (5-0) 5

ANT 1511 HUMAN ORIGINS: Upon completion of this course, the student will demonstrate a knowledge of human paleontology, archaeology, primatology, human variation, and cultural history in both the old and new worlds. (5-0) 5

ARCHITECTURE

ARC 3200 INTRODUCTION TO ARCHITECTURE: Upon course completion the student should be able to: (1) identify the role of the architect and the technician in our society and architectural profession; (2) discuss the development of buildings; (3) list the ways in which architectural design has responded to changes in society which are reflected in the major building types; (4) evaluate the basic building types and their problems. P.R. None. (2-0) 2

ARC 3210 DESIGN YOUR HOUSE PLANS: Upon completion of this course, students should be able to: (1) design their own home plans or alter existing plans; (2) draw plans and elevations with proper dimensioning; (3) select effective house orientation for sun, wind, view and privacy, as well as, the topography of the site; (4) choose the most appropriate basic house structure and determine involved traffic patterns; (5) plan the individual rooms, stairs, halls and core units (kitchen, bath, and utility rooms); (6) design the exterior of the house including shape and proper material. P.R. None. (1-2) 2

ARC 3301 BUILD YOUR HOME: Upon course completion the student should be able to: (1) evaluate information and procedures required in all facets of building or remodeling a home, including areas of building codes, zoning laws, and site selection; (2) perform basic interior and exterior design programs, including selection and use of building materials; (3) recognize the various alternatives in heating and air conditioning, plumbing and electrical systems; (4) review plans, specifications and other contract documents required in the relationship with contractors and financial institutions. P.R. None. (3-0) 3

ARC 3302 HOME CONSTRUCTION METHODS AND DETAILS: Upon completion of this course the student should be able to: (1) identify and evaluate information and procedures pertaining to house construction; such as lot surveys, drainage, excavation and foundation construction, foundation walls, floors, wall and roof framing; (2) appraise pre-fabricated walls and roof trusses, various types of duct work, heating and plumbing rough-in-work, electrical wiring; (4) compare and select exterior wall coverings, roofing materials, interior wall finishes, kitchen and bathroom equipment, floor coverings, plumbing — lighting — electrical fixtures and devices, hardware; (5) evaluate the actual application of the construction materials and techniques through site visitation. P.R. None. (3-0) 3

ARC 3303 INTERIOR DESIGN DRAFTING I: Upon successful completion of this course the student should be able to: (1) apply basic light construction terminology to drawings; (2) draw residential and industrial plans and details; (3) recognize standard building materials and their sizes; (4) compare and select various types of windows and doors; (5) use inking pens; (6) discuss contents of residential and industrial building codes; (7) use reference material and graphic standards. P.R. ARC 3434. (1-6) 3

ARC 3304 INTERIOR DESIGN DRAFTING II: Upon successful completion of this course the student should be able to: (1) layout standard building modular sizes; (2) utilize information determined from residential and commercial building blueprints; (3) interpret and write basic specifications; (4) draw an electrical plan with a fixture schedule; (5) identify various types of heating and cooling systems and draw a plan using the mechanical equipment symbols; (6) draw working plans and details for cabinet makers and mechanics. P.R. 3303. (1-6) 3

ARC 3434 ARCHITECTURAL DRAFTING I: Upon completion of this course the student should be able to: (1) use drafting equipment; (2) letter; (3) construct geometric designs; (4) draw isometric drawings, elevations and plans with proper dimensioning; (5) do freehand sketching; (6) apply methods of drawing reproduction. P.R. None. (2-6) 4

ARC 3435 ARCHITECTURAL DRAFTING II: Upon completion of this course the student should be able to: (1) apply basic light construction terminology to drawings; (2) draw residential and commercial plans, elevations and sections; (3) use reference material and graphic standards; (4) apply basic principles of civil drafting, including topographic contours, and surveying drafting; (5) use ink or plastic lead on drafting film. P.R. ARC 3434. (2-6) 4

ARC 3436 ARCHITECTURAL DRAFTING III: Upon course completion the student should be able to: (1) apply basic commercial construction terminology in the development of working drawings; (2) develop architectural details and wall sections from preliminary sketches; (3) draw basic construction elements, such as stair systems, curtain, walls and incorporate manufacturers' building products; (4) organize working drawings to conform to construction sequence. P.R. ARC 3435; C.R. CIV 3506. (2-6) 4

ARC 4200 ARCHITECTURAL BLUEPRINT READING: Upon completion of this course the student should be able to: (1) visualize building floor plans, elevations, sections and details in relation to the completed three-dimensional structure; (2) recognize drawing conventions, standard materials and equipment symbols on architectural, structural, mechanical and electrical plans; (3) apply information obtained from residential working drawing floor plans, elevations, sections and details, as well as heating, air conditioning, plumbing and electrical plans; (4) utilize information determined from commercial building blueprints pertaining to masonry, reinforced concrete, structural steel and heavy timber construction; (5) discuss contents of specifications and how they relate to drawing in the design and construction of buildings. P.R. None. (1-2) 2

ARC 4300 ARCHITECTURAL MECHANICAL EQUIPMENT: Upon course completion the student should be able to: (1) identify the types of pumping, distribution, and hot water supply systems; (2) size piping layout for a fresh water and a sanitary plumbing system; (3) identify the types of electric wiring and service equipment; (4) associate the types of heating and cooling systems with various classifications of buildings; (5) describe sound and signal systems and vertical transportation equipment such as elevators. P.R. ARC 3435. (2-3) 3

ARC 4302 ARCHITECTURAL MODEL CONSTRUCTION: Upon course completion the student should be able to: (1) use basic tools and equipment necessary to build models; (2) build various types of contours and landscape models; (3) construct simple study models for architectural, engineering or interior design study; (4) represent the basic building materials at various scales; (5) construct either architectural, structural or interior models from blueprints; (6) apply color and photography techniques. P.R. ARC 3435 or ability to read blueprints. (1-6) 3

ARC 4310 ENERGY EFFICIENT & SOLAR HOME DESIGN: Upon completion of this course the student should be able to: (1) utilize conservation techniques in building design to reduce energy consumption; (2) perform site analysis for effective passive solar design; (3) plan interior space organization for effective systems; (4) estimate heat loss for new and existing homes; (5) design passive solar systems; (6) identify active solar systems; (7) compute the cost effectiveness of energy alternatives. P.R. None. (2-2) 3

ARC 4345 ARCHITECTURAL PRESENTATION DRAWING I: Upon completion of this course the student should be able to: (1) perform basic architectural presentation techniques; (2) apply pencil techniques for representing shading and shadowing, contours, foliage, architectural materials, figures, etc.; (3) draw one point interior and exterior perspectives; (4) utilize rendering techniques for floor plans, exterior elevations, site plans, and building sections. P.R. ARC 3435 or equivalent. (1-6) 3

ARC 4346 ARCHITECTURAL PRESENTATION DRAWING II: Upon completion of this course the student should be able to: (1) perform in greater detail interior and exterior perspective drawings; (2) apply various techniques for constructing architec-

tural perspectives including the use of commercially available charts; (3) accurately produce the total presentation of the rendering including building, materials, foliage, automobiles, people, etc. to be represented. P.R. ARC 4345. (1-6) 3

ARC 4347 ARCHITECTURAL DRAFTING IV: Upon completion of this course the student should be able to: (1) identify symbols used for mechanical equipment components; (2) complete a set of plumbing drawings including a riser diagram; (3) draw an electrical plan with a fixture schedule; (4) locate and detail heating and cooling systems when given the architectural drawings of a building. P.R. ARC 3435, C.R. ARC 4300. (2-6) 4

ARC 4438 ARCHITECTURAL DRAFTING V: Upon completion of this course the student should be able to: (1) design and draw plans and shop details for the structural steel of a building, including connections; (2) detail the component parts of reinforced concrete structures; (3) analyze continuous beams; (4) draw plans and details for timber structures. P.R. ARC 3435, CIV 4527, C.R. CIV 4534. (2-6) 4

ARC 4504 ARCHITECTURAL DRAFTING VI: Upon completion of this course the student should be able to: (1) perform as a team member in the preparation of schematic design drawings to meet the building requirements of a hypothetical client; (2) function as a member of the production team in the preparation and presentation of design development drawings; (3) apply the fundamentals of ordinances and regulations pertaining to zoning, traffic and facilities for the physically handicapped; (4) produce, as a member of the team, a set of architectural working drawings, consisting of site plan, floor plans, reflected ceiling plans, elevations, wall sections and details; (5) apply office practice methods pertaining to project production. P.R. ARC 4438, CIV 3504. (3-6) 5

ARC 4__94 INDEPENDENT STUDY: This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 credits)

ART

ART 1300 INTRODUCTION TO ART I: Upon completion of this course, the student will be able to demonstrate a recognition and understanding of the basic elements and principles of design as they apply to the visual arts. Through written or oral means the student will demonstrate an understanding of appropriate terms and the skills required in the various art media, and a knowledge of how the visual arts affect daily life and commerce. (3-0) 3

ART 1301 INTRODUCTION TO ART II: Upon completion of this course, the student will demonstrate an ability to recognize and analyze works of art from major art historical periods. The student will demonstrate an ability to draw parallels between art of the past and the present. Students will demonstrate an understanding through written or oral means of broad social, political, psychological and economic motivations for creating art. (3-0) 3

ART 1302 ART EDUCATION: Upon completion of this course, the student should be able to: (1) discuss and compare some of the major trends in the history, psychology, philosophy, and methods of art education; (2) plan, organize, conduct, and evaluate a classroom art experience.* (2-2) 3

ART 1303 PRINTMAKING II: Upon completion of this course, the student should be able to select woods, execute appropriate designs for woodcut, handle woodcut tools properly, and produce editions of prints using various woodcut techniques.* (0-6) 3

ART 1304 GENERAL DRAWING I: Upon completion of this course, the student should be able to identify problems and possible solutions of representing visual experience on the two-dimensional surface. The student will have explored a variety of materials and techniques with an emphasis upon utilizing these materials and techniques as a means of personal expression.* (0-6) 3

ART 1305 GENERAL DRAWING II: Upon completion of this course, the student will have been introduced to the study of perspective and other systemized methods of rendering the illusion of form and space. The student will be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of material and techniques in drawing. P.R. ART 1304 or consent.* (0-6) 3

ART 1306 GENERAL DRAWING III: In this course, the student will work toward the use of drawing as a means of personal expression and will concentrate on the development of direction and method in their work. P.R. ART 1305 or consent.* (0-6) 3

ART 1307 BASIC PHOTOGRAPHY: The student will be introduced to the basics of photography, including use of the camera, composition, exposure and dark room techniques.* (2-2) 3

ART 1308 INTERMEDIATE PHOTOGRAPHY: This is a continuation of Art 1307 with the introduction of more advanced camera and dark room techniques. P.R. ART 1307 or consent.* (2-2) 3

ART 1309 ADVANCED PHOTOGRAPHY: The student will experience advanced darkroom technique in film and print processing, specialized instruction in specific areas and regular critiques of photography provided. P.R. ART 1308.* (2-2) 3

ART 1310 HISTORY OF ART I: The student will survey major visual arts and the influence of the historical past on the concepts and form of contemporary creative endeavor. Prehistoric through Early Gothic. (3-0) 3

ART 1311 HISTORY OF ART II: The student will survey major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor. The Late Gothic through Renaissance to Baroque. (3-0) 3

ART 1312 HISTORY OF ART III: The student will survey the major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor. Neoclassicism, Romanticism, and special emphasis on the twentieth century. (3-0) 3

ART 1314 BASIC WOODWORKING: Upon completion the student will know the characteristics of a variety of woods and will be able to properly use powered and hand tools in the processes of shaping, joining, and finishing wood.* (0-6) 3

ART 1315 INTERMEDIATE WOODWORKING: Using and improving the knowledge and skills acquired in basic woodworking the student will produce finished woodworking projects. P.R. 1314 or consent.* (0-6) 3

ART 1316 ADVANCED WOODWORKING: Continuing to expand knowledge and skills from basic and intermediate woodworking, the student will design and produce original projects in wood. P.R. ART 1315 or consent.* (0-6) 3

ART 1317 FURNITURE RESTORATION I: After completing this course, the student will be able to identify the presence of shellac, lacquer, oil and varnish finishes on furniture and will know the process for removing old wood finishes, applying oil stains, bleaching wood, proper sanding methods, and applying new finishes.* (0-6) 3

- ART 1318 FURNITURE RESTORATION II:** The student will continue to improve skills in applying new finishes, sanding techniques, and waxing furniture. In addition, the student will learn how to operate woodworking tools to perform minor repairs on furniture. The student will also learn how to distinguish between oil stains, varnish stains, sealer stains, spirit stains, and water stains, when each should be used and how to apply them. P.R. ART 1317 or consent.* (0-6) 3
- ART 1319 FURNITURE RESTORATION III:** The student will further craftsmanship in removing old finishes and applying new ones, and will demonstrate the ability to perform major repairs on furniture including chair caning, repairing inlay, repairing veneer and mending broken wood. P.R. ART 1318 or consent.* (0-6) 3
- ART 1321 PRINTMAKING I:** Students will demonstrate an understanding of silk screening as a fine art by designing and producing editions of prints, which include the use of various techniques such as tusche and glue, crayon and glue, and paper or film stencils.* (0-6) 3
- ART 1322 CRAFTS:** Upon completion of this course, the student should be able to: (1) identify and describe major textile craft forms; (2) design, construct, and exhibit textile craft projects. Crafts will include stitchery, macrame, hand-weaving, tie-dyeing and batik.* (0-6) 3
- ART 1324 DESIGN I:** Upon completion of this course the student will be able to identify and use the principles and elements of design as they relate to the two-dimensional surface. Flat pattern development, pictorial composition, depiction of spatial illusion, and value analysis will have been studied.* (0-6) 3
- ART 1325 DESIGN II:** The student will continue the analysis and implementation of the principles and elements of design with an emphasis upon color theory. P.R. 1324 or consent.* (0-6) 3
- ART 1326 DESIGN III:** The student will continue the study of principles of design and will employ these principles for works in both two and three dimensions. Emphasis will be upon personal solutions to design problems. P.R. ART 1325 or consent.* (0-6) 3
- ART 1327 SCULPTURE I:** In this course the student will experiment with a variety of materials and methods of sculpture. The student will construct and use piece molds to reproduce their clay originals.* (0-6) 3
- ART 1328 SCULPTURE II:** The student will continue to experiment with a variety of materials and methods of sculpture. There will be an emphasis on carving in wood and stone. P.R. ART 1327 or consent.* (0-6) 3
- ART 1329 SCULPTURE III:** Upon completion of this course, the student will have (1) expanded knowledge of basic sculpture; (2) performed individual investigation and work in modeling, casting, carving, and construction; (3) experimented with recently developed media in sculpture. P.R. ART 1328 or consent.* (0-6) 3
- ART 1331 BASIC CAMERA TECHNIQUES:** In this course, students will have the opportunity to develop skills using their own small format camera. The student will learn to determine proper exposure under a variety of light and subject conditions including flash. Instruction and practice will be provided in handling the camera, films, filters, lenses, and composition. (3-0) 3
- ART 1334 PAINTING I:** Upon completion of this course, the student will be able to select tools and materials for painting and will be able to demonstrate a knowledge of the elements of art and the principles of design as they apply to the production of painting.* (0-6) 3
- ART 1335 PAINTING II:** The student will continue the analysis and production of good pictorial composition and will continue experimentation in painting techniques and media. P.R. ART 1334 or consent.* (0-6) 3
- ART 1336 PAINTING III:** The student will give special attention to painting as a means of personal expression and will continue to identify and solve problems of pictorial production in color form, and spatial illusion and will continue technical experimentation. P.R. ART 1334 or consent.* (0-6) 3
- ART 1360 RAKU:** The student will study history, esthetics, and techniques of the raku ceramic process. The student will be provided experience in glazing, kiln building, and firing.* (0-6) 3
- ART 1364 CERAMICS I:** Upon completion of this course, the student should be able to: (1) design and form clay-ware by the pinch, coil, and slab methods; (2) formulate and apply glazes. (0-6) 3
- ART 1365 CERAMICS II:** Upon completion of this course, the student should be able to: (1) design and produce ceramic projects building on the foundation of skills acquired in Ceramics I; (2) construct one major sculpture project which will combine at least one additional material with the clay; (3) practice basic wheel throwing methods; (4) keep an individual test tile record of glaze experiments. P.R. ART 1364. (0-6) 3
- ART 1366 CERAMICS III:** Upon completion of this course, the student should be able to: (1) design and produce ceramic projects building on the foundation of skill acquired in Ceramics I and II; (2) formulate a base glaze test with variations; (3) describe how to load, fire, and unload a gas and an electric kiln. P.R. ART 1365. (0-6) 3
- ART 1374 JEWELRY I:** Upon completion of this course, the student should be able to: (1) design and produce finished metal jewelry projects; (2) demonstrate a knowledge of and proper care for jewelry tools and equipment; (3) demonstrate the ability to saw, file, forge, solder, and finish a variety of metals.* (0-6) 3
- ART 1375 JEWELRY II:** Upon completion of this course, the student should be able to: (1) design and produce finished jewelry projects building on basic skills acquired in Jewelry I; (2) demonstrate a knowledge of and proper care for jewelry tools and equipment including centrifugal casting equipment.* (0-6) 3
- ART 1376 JEWELRY III:** Upon completion of this course, the student should be able to: (1) design and produce finished jewelry projects building on the basic skills acquired in Jewelry I and II; (2) demonstrate a knowledge of and proper care for jewelry tools and equipment. Emphasis will be on the relationship of material, function, and individual approach of the student. P.R. ART 1375.* (0-6) 3
- ART 2304 INDEPENDENT STUDIO:** A course designed to permit the individual student or group to work beyond the limits of the regular course offerings on self-determined objectives utilizing the resources of the Art Department. P.R. Completed sequence of art courses in the area of proposed independent study.* (0-6) 3

*Does not satisfy humanities requirement.

AUTOMOTIVE BODY REPAIR

AUB 5100 SEMINAR I, AUB 5101 SEMINAR II, AUB 5102 SEMINAR III: These courses cover various aspects of the auto body repair field not included in the skill courses. The student will gain a better understanding of day to day auto body shop operations, problems, and their solutions. (1-0) 1

- AUB 5201 TRIM AND GLASS:** Upon successful completion of this course, the student should be able to: (1) disassemble, re-build and reassemble automobile doors; (2) remove and install windshields and back glass; (3) aim headlights; (4) remove and install seat covers and side trim. P.R. None. (1-3) 2
- AUB 5202 AUTO RENEWAL:** Upon completion of this course, the student should be able to: (1) clean and repaint engines; (2) clean and dye seats and doors; (3) clean and dye headliners and carpets; (4) renew trunk and engine compartments; (5) buff and polish exterior surfaces; (6) clean and restore chrome; (7) clean and dress vinyl tops and convertible tops. P.R. None. (1-3) 2
- AUB 5203 ESTIMATING AUTO BODY DAMAGE:** Upon completion of this course, the student should be able to: (1) read a crash estimating guide; (2) prepare a damage estimate; (3) interpret an estimate; (4) estimate straight time costs. P.R. None. (2-0) 2
- AUB 5214 DOOR AND FENDER ALIGNMENT:** Upon completion of this course, the student should be able to: (1) align the hood and fenders of cars; (2) align the doors of cars; (3) align deck lids of cars; (4) replace the chassis sheet metal of a car as a unit. C.R. WLD 5110. P.R. None. (1-3) 2
- AUB 5223 FIBERGLASS AND METALLIC FILLERS:** Upon completion of this course, the student should be able to: (1) solder fill minor dents; (2) fiberglass fill small cracks and openings; (3) use powdered metal to fill rusted areas; (4) finish minor body defects using hammer and dolly, files, grinders, sanders and related tools. C.R. AUB 5421. P.R. None. (1-3) 2
- AUB 5224 PANEL INSTALLATION:** Upon completion of this course, the student should be able to: (1) remove damaged sheet metal panels; (2) use a power chisel; (3) install partial panels, patch panels and full panels; (4) use pop rivets; (5) use a panel spatter and wire spot welder. C.R. AUB 5421. P.R. None. (1-3) 2
- AUB 5233 LACQUER PAINTING:** Upon completion of this course, the student should be able to: (1) spray paint using various lacquers; (2) sand and prepare a car for lacquer painting; (3) buff and finish a car after lacquer painting; (4) spot paint using lacquer paint; (5) seal and paint lacquer over old surfaces. P.R. None. C.R. AUB 5431. (1-3) 2
- AUB 5234 ENAMEL PAINTING:** Upon completion of this course, the student should be able to: (1) sand and prepare a car for enamel painting; (2) spray paint using various enamel paints; (3) paint a single panel using enamel paint. P.R. None. C.R. AUB 5431. (1-3) 2
- AUB 5235 SPECIAL FINISHES:** Upon completion of this course, the student should be able to: (1) spray paint a vinyl top; (2) paint trunk compartments; (3) paint plastic parts; (4) pinstripe; (5) use various custom paints. P.R. None. C.R. AUB 5431, AUB 5233. (1-3) 2
- AUB 5300 AUTO BODY MINOR DAMAGE AND PAINT REPAIR:** Upon completion of this course, the student will be able to: (1) use auto body shop tools and equipment; (2) repair minor sheet metal collision and rust damage; and (3) paint repaired spots and panels. P.R. None. (1-6) 3
- AUB 5344 BODY SHOP APPLICATIONS I:** Upon completion of this course, the student will have: (1) gained confidence and skill in the use of all the techniques covered in the previous courses; (2) worked on actual collision repairs using the same methods and practices as recommended by the automobile manufacturers and related industry. P.R. ALL AUB prefix courses first three quarters. (0-9) 3
- AUB 5345 BODY SHOP APPLICATIONS II:** A continuation of AUB 5344. P.R. or C.R. AUB 5344. (0-9) 3
- AUB 5346 BODY SHOP APPLICATIONS III:** A continuation of AUB 5345. P.R. or C.R. AUB 5345. (0-9) 3
- AUB 5347 BODY SHOP APPLICATIONS IV:** A continuation of AUB 5346. P.R. or C.R. AUB 5346. (0-9) 3
- AUB 5412 FRAME AND UNITIZED AUTO BODY ALIGNMENT:** Upon completion of this course, the student should be able to: (1) use frame gauges; (2) use hydraulic tools for straightening auto body damage; (3) align body openings; (4) describe the types of major frame damage; (5) tie down a car; (6) use a frame machine to straighten frame damage. P.R. None. C.R. WLD 5110. (2-6) 4
- AUB 5421 METAL FINISHING AND PLASTIC FILLERS:** Upon completion of this course, the student should be able to: (1) shrink sheet metal; (2) use a hammer and dolly; (3) rough out and fill dents; (4) finish dents with plastic fillers; (5) use a grinder, body file and long sander. P.R. None. C.R. WLD 5110. (2-6) 4
- AUB 5431 PAINT EQUIPMENT AND PREPARATION:** Upon completion of this course, the student should be able to: (1) disassemble, clean and reassemble a paint spray gun; (2) maintain a spray paint system; (3) select spray paint equipment; (4) sand and mask a car in preparation for painting; (5) use the basic techniques of spray painting. P.R. None. (2-6) 4

AUTOMOTIVE MECHANICS

- AUT 5113 ORIENTATION TO CO-OP:** Upon completion of this course the student will have: (1) demonstrated ability to complete a job application form; (2) described acceptable practices for participating in a job interview; (3) listed several good work habits; and (4) discussed acceptable procedures and practices for keeping and getting ahead on the job. P.R. None. (1-0) 1
- AUT 5201 SUSPENSION SYSTEMS AND ALIGNMENT:** Upon completion of this course the student will have: (1) a basic understanding of the design of suspension systems found in domestic and foreign automobiles; (2) disassembled, inspected, reassembled and adjusted to manufacturer's specifications front and rear suspension components. P.R. None. (1-3) 2
- AUT 5202 AUTOMOBILE BRAKE SYSTEMS:** Upon completion of this course the student will have: (1) a basic understanding of the braking systems used in domestic and foreign automobiles, and light duty trucks; (2) disassembled, inspected and reassembled front and rear brakes, drum and disc type; (3) disassembled, inspected and reassembled the braking system's hydraulic components; (4) made all adjustments to manufacturers' specifications. P.R. None. (1-3) 2
- AUT 5203 AUTOMOTIVE TUNE-UP:** Upon completion of this course the student will be able to: (1) describe the fundamentals of the automotive engine electrical and fuel systems; (2) replace parts for these systems; (3) make necessary adjustments; (4) demonstrate use of tune-up equipment; (5) describe components of emission systems; (6) describe the fundamentals of a solid state ignition system. P.R. None. (1-3) 2
- AUT 5211 BASIC FUEL SYSTEMS:** Upon completion of this course the student will be able to: (1) disassemble, repair and reassemble typical truck manufacturers' carburetors; (2) describe the construction and operation of carburetors and fuel pumps; (3) test fuel pump pressure and volume. P.R. None. (1-3) 2
- AUT 5212 ELECTRICAL TESTING:** Upon completion of this course the student will be able to: (1) operate automotive electrical diagnostic equipment. P.R. AUT 5242. (1-3) 2

AUT 5242 BASIC ELECTRICAL SYSTEMS: Upon completion of this course the student will be able to: (1) disassemble, repair and reassemble typical truck manufacturers' generators, alternators, starters (electric) and distributors; (2) describe the operation and construction of the above listed components. P.R. None. (1-3) 2

AUT 5254 AUTOMOTIVE AIR CONDITIONING: Upon completion of this course the student will be able to: (1) describe the operation and construction of an air conditioning system; (2) evacuate and charge an automotive air conditioning system; (3) trouble-shoot auto air conditioning systems; (4) describe the proper handling precautions of refrigerants. P.R. None. (1-3) 2

AUT 5295 AUTO MECHANICS CO-OP: Upon completion of this course, the student should be able to: (1) produce and describe a master work log sheet containing the various types and number of job tasks completed in an automotive service agency during this cooperative work experience; (2) demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty. P.R. Fourth quarter standing in Auto Mechanics Program. (0-20) 2

AUT 5302 TRANSPORT REFRIGERATION: Upon completion of this course the student will be able to: (1) describe the operation of a typical transport refrigeration system; (2) list the procedures to discharge, evacuate, and charge a transport refrigeration system; (3) analyze the control system of a transport refrigeration unit; (4) state procedures for troubleshooting the system; (5) describe the safety precautions required when handling refrigerants and servicing the transport systems. P.R. AUT 5254 or AHR 5411 or approval of AUT Program Director based on student's previous experience. (3-0) 3

AUT 5401 INTERNAL COMBUSTION ENGINES I: Upon completion of this course the student will be able to: (1) disassemble, measure parts, reassemble and run selected automobile engines; (2) adjust to manufacturers' specifications. P.R. None. (2-6) 4

AUT 5402 INTERNAL COMBUSTION ENGINES II: Upon completion of this course the student will be able to: (1) disassemble, measure parts, reassemble and run selected automobile engines; (2) adjust to manufacturers' specifications; (3) grind valves and reface seats on cylinder heads; (4) remove and install cam bearings using special tools. P.R. AUT 5401. (2-6) 4

AUT 5404 AUTO CHASSIS AND SUSPENSION SYSTEMS: Upon completion of this course the student will be able to: (1) disassemble, repair as necessary and reassemble the following components: (a) manual and power steering, (b) front and rear suspension unit, (c) drum and disc type brakes; (2) check and adjust front end alignment angles; (3) balance wheels. P.R. None. (2-6) 4

AUT 5405 FUEL SYSTEMS: Upon completion of this course the student will be able to: (1) disassemble, repair as necessary, and reassemble major United States manufacturers' carburetors; (2) describe the operations and construction of carburetors, fuel pumps and modern emission control devices. P.R. None. (2-6) 4

AUT 5415 ELECTRICAL SYSTEMS I: Upon completion of this course the student will be able to: (1) disassemble, repair as necessary, reassemble and test automobile generators, alternators, starters, distributors and electrical accessories; (2) describe the operation and construction of the above automobile components. P.R. None. (2-6) 4

AUT 5416 ELECTRICAL SYSTEMS II: Upon completion of this course the student will be able to: (1) operate automotive electrical diagnostic equipment; (2) perform the procedures used for a major automotive tune-up on typical vehicles. P.R. AUT 5415. (2-6) 4

AUT 5420 FOREIGN CAR ENGINES: Upon completion of this course the student will be able to: (1) disassemble, measure parts, reassemble and run selected foreign automobile engines; (2) adjust to manufacturer's specifications; (3) describe the theory of operation, design, and service techniques of major components of automobile engines. P.R. None. (2-6) 4

AUT 5425 AUTO POWER TRAIN SYSTEMS I: Upon completion of this course the student will be able to: (1) disassemble, repair as necessary, and reassemble the following components: (a) three and four speed manual transmissions; (b) drivelines; (c) differential units. P.R. None. (2-6) 4

AUT 5426 AUTO POWER TRAIN SYSTEMS II: Upon completion of this course the student will be able to: (1) disassemble, repair as necessary, and reassemble the following automatic transmissions: (a) General Motors Powerglide; (b) C-4 Ford; (c) General Motors Turbo-350; (d) Chrysler Torqueflite. P.R. AUT 5425. (2-6) 4

AUT 5800 INTERNAL COMBUSTION ENGINES: Upon completion of this course the student will be able to: (1) disassemble, measure parts, reassemble and run selected automobile engines; (2) adjust to manufacturers' specifications; (3) grind valves and reface seats on cylinder heads; (4) remove and install cam bearings using special tools. P.R. None. (4-12) 8

AUT 5814 ELECTRICAL SYSTEMS: Upon completion of this course the student will be able to: (1) disassemble, repair as necessary, reassemble and test automobile generators, alternators, starters, distributors, and electrical accessories; (2) describe the operation and construction of the above automobile components; (3) operate automotive electrical diagnostic equipment; (4) perform the procedures used for a major automotive tune-up on typical vehicles. P.R. None. (4-12) 8

AUT 5824 AUTO POWER TRAIN SYSTEMS: Upon completion of this course the student will be able to disassemble, repair as necessary, and reassemble the following components: (1) three and four speed manual transmissions; (2) drivelines and U-joints; (3) differential units; (4) Powerglide automatic transmissions; (5) C-4 Ford automatic transmissions; (6) Turbo-350 automatic transmissions; (7) Torque-Flite automatic transmissions. P.R. None. (4-12) 8

BANKING AND FINANCE

BAF 3400 PRINCIPLES OF BANK OPERATIONS: Upon successful completion of this course the student will be able to explain how to control cash items and deposits, describe the role of the bank bookkeeper, discuss the management of bank funds, bank control systems, and paying teller operations, and demonstrate knowledge of control systems for cash and deposit items. P.R. None. (3-2) 4

BAF 3401 BANK MANAGEMENT: Upon successful completion of this course the student will be able to explain the nature and objectives of banking; describe the planning, organizing, staffing, and control functions of banking management; demonstrate a thorough knowledge of policies relating to the deposit and investment of bank funds, loans, trusts and estates; and describe the role of bank auxiliary services. P.R. None, but BAF 3400 is recommended. (3-2) 4

BAF 4400 LOAN CREDIT ANALYSIS: Upon successful completion of this course the student will be able to describe the three basic kinds of financial statements and their interrelationships; analyze these statements using ratios to determine levels of liquidity, coverage, and profitability; perform short and long term risk analysis of individual and bank loan requests; and develop cash flow and related budgetary projections. P.R. None but BAF 3400 is recommended. (3-2) 4

BAF 4401 MANAGEMENT OF COMMERCIAL BANK FUNDS: Upon successful completion of this course the student will be able to discuss the major sources and uses of bank funds, analyze investment portfolios in terms of value and yield, list and

describe the various types of money market instruments, discuss the major components of asset and capital management and their coordination, describe the types of non-money market liabilities, and explain the liquidity needs of banks. P.R. Nane. (3-2) 4

BAF 4402 FEDERAL RESERVE SYSTEM: Upon successful completion of this course the student will be able to describe the organizational structure of the Federal Reserve; differentiate between and discuss the nature of fiscal and monetary policy; list the various methods used by the Federal Reserve to influence credit; interpret interest rate movements, the balance of payments concept and the bank reserve equation; describe the supervisory function of the Federal Reserve, and interpret current actions and policies of the Federal Reserve. P.R. Nane but BAF 3400 is recommended. (3-2) 4

BAF 4403 INTERNATIONAL BANKING: Upon successful completion of this course the student will be able to describe the basic framework and fundamentals of international banking; explain how money is transferred from one country to another; discuss the methods of financing international trade; list and describe the international agencies involved with international banking; and describe the nature of international currency markets. P.R. Nane but BAF 3400 is recommended. (3-2) 4

BIOLOGICAL SCIENCE

BIO 1500 BIOLOGICAL SCIENCE: A foundation course designed to introduce selected fundamental biological principles. Upon satisfactory completion of this course the student will be able to demonstrate an understanding of the following topics: the cell, reproduction, genetics, embryology, transport mechanism, photosynthesis, respiration, evolution, and ecology. (3-4) 5

BIO 1501 GENERAL BOTANY: An introductory study of green and non-green plants. Upon satisfactory completion of this course the student will be able to demonstrate a knowledge of the following topics: plant cell structure and function, taxonomy, reproduction, genetics, mineral nutrition, and ecology. P.R. BIO 1500 suggested but not required. (3-4) 5

BIO 1502 GENERAL ZOOLOGY: An introductory study of the major groups of animals. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of animal anatomy, physiology, homology, ecology, life histories, classification, and evolution. P.R. BIO 1500 suggested but not required. (3-4) 5

BIO 1503 MICROBIOLOGY: An introduction to the world of Microorganisms — bacteria, viruses, fungi, protozoa, and Rickettsia — with emphasis upon bacteria. The student, upon satisfactory completion of this course, will have gained knowledge of the structure of Microorganisms, interrelationships between them, factors influencing their growth, and some effects of their activities upon people. (3-4) 5

BIO 1504 HUMAN ANATOMY AND PHYSIOLOGY I: An introductory course in the normal structure and function of human body systems emphasizing interrelationships of each. Upon satisfactory completion of this course the student will be able to demonstrate knowledge of the following systems: cellular biology, tissues, skeletal, muscular, nervous, and sense organs. (3-4) 5

BIO 1505 HUMAN ANATOMY AND PHYSIOLOGY II: A continuation of BIO 1504 with emphasis on the following systems: circulatory, respiratory, digestion, endocrine, reproduction, urinary, acid base, fluid-electrolyte. P.R. BIO 1504 suggested but not required. (3-4) 5

BIO 2300 GENETICS: A study of the fundamental laws of heredity with emphasis on human heredity. Having satisfactorily completed this course, a student will be able to demonstrate a working knowledge of the behavior of chromosomes and genes, mutation and chromosomal abnormalities and quantitative inheritance, gene and chromosome structure, cytoplasmic inheritance, evolution, population genetics, environment and heredity, and eugenics. (3-0) 3

BIO 2304 HUMAN NUTRITION: Upon successful completion of this course the student should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing. (3-0) 3

BIO 2305 DENTAL NUTRITION: Upon successful completion of this course the student should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing. (3-0) 3

BIO 2500 INTRODUCTION TO ENTOMOLOGY: A basic course designed to give a practical approach to the study of insects. Upon satisfactory completion of this course the student should be able to demonstrate a knowledge of the fundamentals of insect classification, development, food habits, and controls. (3-4) 5

BIO 2501 ORNITHOLOGY: An introduction to the study of birds. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of anatomy, physiology, ecology, life histories, behavior, evolution, and identification of birds. (3-4) 5

BIO 2502 MARINE BIOLOGY: Upon satisfactory completion of this course, the student should be able to demonstrate, orally or in writing, understanding of topics in marine biology, with emphasis on field studies of various marine habitats (including the beach intertidal zone, the salt marsh, mud flats, salt water creeks and the open ocean). P.R. BIO 1502 or consent of instructor. (3-4) 5

BIO 2504 SELECTED TOPICS IN BIOLOGY: This course is offered in order to comply with the needs of students who want subject matter not included in the other courses offered by the biology department. Upon satisfactory completion the student should have an understanding of such courses as: Animal behavior, Embryology, Histology, Exercise Physiology, Parasitology, Physiology, Crop Plants, Local Flora, Plant Anatomy, and Plant Morphology. P.R. Consent of the Department. (3-4) 5

BIO 2514 VERTEBRATE ZOOLOGY: An introductory study of the vertebrate animals. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of vertebrate anatomy, physiology, embryology, systematics, homology, life histories, ecology, behavior, and evolution. P.R. BIO 1500 or consent. (3-4) 5

BIO 2524 GENERAL ECOLOGY: An introductory course in general ecology and environmental function. Upon satisfactory completion of this course the student should be able to demonstrate a knowledge in the following areas: animal and plant interrelationships, habitats, energy flow, biogeochemical cycles and the economic importance of ecology. A laboratory is included which should point out to the student the importance of pollution problems and their effects on normal ecological systems. (3-4) 5

BIO 3404 CARDIO-PULMONARY ANATOMY AND PHYSIOLOGY: A specialized course to provide an in-depth study of cardiovascular and respiratory functions and their interrelationships. Upon satisfactory completion of this course the student will be able to demonstrate an understanding of Circulatory and Respiratory Anatomy and Physiology. Emphasis is placed on the interpretation of blood-gas measurements. (3-2) 4

BIO 3600 BASIC HEALTH SCIENCE: An introductory course in the normal structure and function of the human body. Upon

satisfactory completion of this course the student should be able to discuss the anatomy, physiology, and interrelationships of the following systems: musculoskeletal, nervous, circulatory, respiratory, urinary, endocrine, and reproductive. (5-2) 6

BIO 9500 INTRODUCTION TO BIOLOGY: An individualized, self-paced course for students who need to update or review basic concepts in Biology. The students select the modules that meet their particular needs. Upon successful completion, the student should be able to demonstrate an understanding of six (6) of the following modules: Cell structure and function, DNA, Meiosis and Mitosis, Heredity, Biochemistry, Respiration and photosynthesis, Microbiology, Human anatomy, Classification, Embryology, Nutrition, Ecology. BIO 9500 is tuition free and the necessary books are available in the library. (5-0) 5

BUSINESS

BUS 1400 INTRODUCTION TO BUSINESS: Upon successful completion of this course the student will be able to describe the legal and economic environment of business, discuss the basic types of internal and external business forms, describe the functions of business, and discuss the role of management in the business enterprise. P.R. None. (3-2) 4

BUS 2304 BUSINESS LAW I: This course is primarily concerned with contracts, their creation and discharge as applied to business and everyday life. Upon successful completion of the course the student should be able to describe the structure of State and Federal courts. Further, the student should have the ability to recognize personal and business crimes and torts and will have a general understanding of contract law and the effect of the Uniform Commercial Code on contracts. (3-0) 3

BUS 2305 BUSINESS LAW II: This course continues the study of the Uniform Commercial Code and other business laws. Upon successful completion of the course the student should have a working knowledge of sales, commercial paper, secured transactions, insurance and bankruptcy. P.R. BUS 2304 or consent of department head. (3-0) 3

BUS 2306 BUSINESS LAW III: Upon successful completion of the course the student should be able to describe agency and what effects agency has on the rights and liabilities of the principal, agent and third party, as well as distinguish between partnerships and corporations, their creation and general rights and liabilities created by each. The student should also be able to explain the laws governing employment contracts, personal property, real property, trusts and estates. P.R. BUS 2304 or consent of department head. (3-0) 3

BUS 3300 APPLIED PSYCHOLOGY: The student will study the principles of psychology and apply them to the employment problems encountered on the job. Upon successful completion of this course the student should be able to: describe the historical development of psychology; apply the "Barrier Adjustment" concept to work problems; develop a working knowledge of the vocabulary of psychology; write a resume and letter of application; learn the psychological factors affecting the worker on the job; study psychological climates, appreciate the importance of Group Dynamics. P.R. None. (3-0) 3

BUS 3304 BUSINESS STATISTICS: Upon successful completion of this course the student should be able to differentiate between descriptive and inferential statistics, calculate measures of central tendency and variability, employ "z" tables, discuss probability theory and its uses and calculate regression and correlation coefficients. P.R. FIN 3314. (3-0) 3

BUS 3343 MONEY AND BANKING: Upon successful completion of this course the student should be able to describe how the banking system operates, discuss the role of commercial banks and the federal reserve, list the types of monetary and fiscal alternatives available to economic policymakers, and discuss the application of fiscal and monetary policy to specific economic problems. P.R. None. (3-0) 3

BUS 4303 LABOR LAW: This course surveys the various laws that affect the employee/employer relationship, such as wage and hour laws, child labor laws, OSHA and NLRB rules and regulations. Upon successful completion of this course the student should be able to recognize which of the various agencies control a specific employee/employer relationship and describe the basic procedures used by these agencies. (3-0) 3

BUS 4394 INDIVIDUAL STUDY — BUSINESS ADMINISTRATION: This course provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor, department head and appropriate Vice-President is required. (3-0) 3

CONSUMER EDUCATION

CED 1500 CONSUMER EDUCATION: Upon satisfactory completion of this course, the student should be able to explain the fundamentals of personal and family budgeting; explain efficient buying procedures including comparative shopping and product analysis; explain uses of credit, the cost of borrowing and how it is managed; explain insurance protection needed in the areas of health, life, property and casualty; explain the fundamentals of investing; and explain the sharing of income including taxation and giving for public purposes. (5-0) 5

CREDIT AND FINANCIAL MANAGEMENT

CFM 4340 CONSUMER CREDIT: Upon successful completion of this course the student will be able to discuss the role of credit in the American economy; list the major characteristics of retail revolving, charge, and installment credit; discuss the principles of consumer credit management; describe the process of credit investigation; discuss the role of various consumer credit institutions; and apply knowledge to the development of a "case" consumer credit department. P.R. None but this course should be taken prior to CFM 4341. (3-0) 3

CFM 4341 COMMERCIAL CREDIT: Upon successful completion of this course the student will be able to differentiate between consumer and commercial credit, discuss business use of credit, define the role of the commercial credit manager, list and discuss the sources of credit information, differentiate between various credit related institutions, analyze financial statements, develop a set of credit standards for a business, and apply those standards to a "case" commercial credit department. P.R. None. (3-0) 3

CFM 4344 CREDIT MANAGEMENT PROBLEMS: Upon successful completion of this course the student will be able to employ decision making skills in credit management through the use of financial statements, credit reports, bank references, and related credit documents. P.R. CFM 4341, FIN 4317 or consent of the program director. (3-0) 3

CHEMISTRY

CHM 1500 INTRODUCTORY CHEMISTRY I: An introductory course with laboratory experiences designed for the student with little or no background and no great prior interest in Chemistry. The topics integrate chemical principles with environmental applications. Upon successful completion of this course, the student will be able to demonstrate an understanding of some basic chemical concepts and their applications through discussions and laboratory experiences on topics of contemporary interest. (3-4) 5

- CHM 1501 INTRODUCTORY CHEMISTRY II:** Presents the principles of basic chemistry and biochemistry with laboratory, emphasizing practical applications. Upon successful completion of this course the student demonstrates an understanding of basic chemical principles of inorganic and organic compounds as they relate to the study of biological systems. P.R. High school Chemistry or CHM 1500. (3-4) 5
- CHM 1502 INTRODUCTORY CHEMISTRY III:** A continuation of CHM 1501 with laboratory experiences. Upon successful completion of this course, the student will be able to demonstrate an understanding of the chemistry and metabolism of carbohydrates, enzymes, lipids, nucleic acids, proteins, vitamins and hormones. P.R. CHM 1501 or consent. (3-4) 5
- CHM 1504 GENERAL CHEMISTRY I:** A study of the fundamental principles and laws of chemistry with emphasis on the relationship of atomic structure to physical and chemical properties of the elements. Individualized lab experiments deal with the verification of chemical laws and the development of problem-solving skills. Applications of chemical principles will be made in the area of environmental problems such as energy and pollution. After completing this course the student should be able to: (1) apply the scientific method in problem solving; (2) demonstrate the basic laboratory techniques which will enable him to successfully and safely conduct chemical experiments; (3) solve problems and demonstrate an understanding and appreciation of certain chemical laws, principles, concepts and theories such as: metric system, atomic structure, laws of chemical combinations, stoichiometry, gas laws, kinetic molecular theory, theory of chemical bonding and simple nomenclature; (4) relate the knowledge of chemistry to the real world such as identifying specific societal problems created and/or solved by the science of chemistry. The following students should take the 1504, 1505, 1506 sequence: students with major emphasis in forestry, agriculture, dentistry, optometry, para-medics, medicine, pharmacy, nursing (B.S. degree), geography, textiles, chemical technology, geology, biology, and any other areas of science and math. P.R. MAT 9310 or two years of high school algebra and/or of the following: C.R. MAT 1504, MAT 1514, MAT 3504 or consent. (3-4) 5
- CHM 1505 GENERAL CHEMISTRY II:** A continuation of CHM 1504, with emphasis on chemical equilibrium, kinetics, solution stoichiometry, acid-base theories, and electrochemistry. Some chemical application will be made in the areas of environmental problems, biological systems and industrial processes. After completing this course the student should be able to: (1) solve problems dealing with systems in equilibrium; (2) solve solution problems; (3) recognize and apply various acid-base theories to chemical equations; (4) demonstrate an understanding of such things as redox potentials, reaction kinetics, and colligative properties of solutions. P.R. CHM 1504 or consent. (3-4) 5
- CHM 1506 GENERAL CHEMISTRY III:** A continuation of CHM 1505 with emphasis on ionic equilibrium and relating chemical properties to atomic and molecular structures. Includes introduction to organic chemistry. Both qualitative and quantitative analysis, with the use of some instrumentation, are included. Applications are made to biological systems and to environmental problems. After having completed this course the student should be able to demonstrate an understanding of ionic equilibrium by solving various problems dealing with PH, Hydrolysis, K_{sp} , buffers, redox titration and acid base titrations. The student should be able to relate chemical and physical properties of common elements and ions to the periodic table and show well-developed lab techniques in experiments involving weighing, filtering and titrating. P.R. CHM 1505 or consent. (3-4) 5
- CHM 2304 SPECIAL PROBLEMS:** An advanced problem course of independent study in which a student and advisor select an appropriate topic for both laboratory and library research in the field of chemistry. After completing this course the student should be able to successfully conduct a relatively simple library and lab research project in chemistry and present the results in proper written form. P.R. CHM 1506 or consent. (1-4) 3
- CHM 2455 TEXTILE COLORING AND TESTING:** Upon completion of this course the student should be able to: (1) dye fibers and fabrics of cotton, wool, acetate, nylon and polyester in the laboratory; (2) describe large scale dyeing and finishing of some of these materials in area industries. P.R. CHM 1505 or equivalent. (2-4) 4
- CHM 2604 QUANTITATIVE CHEMICAL ANALYSIS:** Emphasizes a variety of industrial analytical methods. Students successful in this course will be able to make analyses accurately using both volumetric and gravimetric methods. The student will also perform well in the use of the calorimeter, potentiometer, and infrared spectrophotometer. P.R. CHM 1506 or consent. (3-6) 6
- CHM 2614 ORGANIC CHEMISTRY I:** A systematic study of the theories, principles, and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Reaction mechanisms are emphasized. Some chemical applications are made to environmental problems and to industrial processes. Laboratory work includes purification, characterization and synthesis of organic compounds with emphasis on the improvement of scientific problem-solving skills. After having completed this course the student should be able to: (1) name the common members of the families of organic compounds studied and describe their chemical and physical properties; (2) demonstrate a working knowledge of organic synthesis of the compounds studied based on reaction mechanisms; (3) perform common organic lab experiments in a reasonably safe manner using proper techniques; (4) recognize and/or describe simple chemical tests for certain functional groups. The following students should take the CHM 2614-CHM 2615 sequence: students with major emphasis in dentistry, optometry, medicine, para-medics, engineering, (chemical, petroleum, sanitation, environmental) pharmacy, textiles, chemical technology, chemistry and biology. P.R. CHM 1506 or consent. (4-4) 6
- CHM 2615 ORGANIC CHEMISTRY II:** A continuation of CHM 2614 with a greater emphasis on instrumental analysis in the laboratory. Introduction to biochemistry is included. After completing this course the student should be able to identify some unknown organic compounds using NMR, UV, IR, and mass spectra. The student should be able to recognize the chemical properties of the common functional groups and should have well developed lab techniques as demonstrated in the identification and synthesis of certain organic compounds. P.R. CHM 2614 or consent. (4-4) 6
- CHM 2625 CHROMATOGRAPHY:** Upon completion of this course the student should be able to: (1) describe techniques of physical separation of complex mixtures; (2) enumerate conditions favorable to differential migration of sample components in a chromatographic separation; (3) make separations of mixtures employing paper, thin layer, and gas chromatography. P.R. CHM 1505. (3-6) 6
- CHM 2626 OPTICAL METHODS OF CHEMICAL ANALYSIS:** Upon completion of this course the student should be able to: (1) perform analyses employing such optical instruments as the polarimeter, refractometer, calorimeter, fluorimeter, infrared spectrophotometer and atomic absorption spectrophotometer; (2) enumerate most of the theoretical relationships upon which the operation of these instruments are based. P.R. CHM 1506. (3-6) 6
- CHM 3500 FIRE SCIENCE CHEMISTRY:** An individualized course oriented to students in the Fire Science technology curriculum. Matter, atomic theory and structure of elements are related to their properties and position in the periodic chart are emphasized. Any student who is successful in the course will be able to solve simple problems in energy transitions. The student will also be able to use reference materials in locating fire-hazard and toxicity information for specified chemicals. (3-4) 5
- CHM 5300 BASIC CHEMISTRY:** An introductory course in chemistry designed for use of students in related vocational cur-

ricula. Upon successful completion of this course, the student will be able to describe a chemical reaction in terms of changes of both matter and energy. The student will be able to follow simple written laboratory experiment procedures and then report the results in an understandable way. (2-2) 3

CHM 9500 FUNDAMENTALS OF CHEMISTRY: Designed to provide the student with a basic foundation in chemistry as preparation for college curriculum courses. Matter, energy, formula writing and equation balancing, ionization, acids and bases, metric system and introductory biochemistry are the units available for study. College Transfer students, Health Program students, Fire Protection Technology and other technical program students will benefit from completing this program.

Any student may enroll for CHM 9500. There are no prerequisites. All books are available in the library. (0-10) 5

CIVIL ENGINEERING

CIV 3504 SURVEYING I: Upon completion of this course the student should be able to: (1) measure distances with a surveyor's tape or an electronic distance measuring device; (2) apply geometric principles to correct a taped distance for a standardized measurement; (3) perform the calculations and field operations for differential and profile leveling; (4) use a transit for the measurement of horizontal and vertical angles; (5) perform a transit and tape survey. C.R. MAT 3504, ARC 3434. P.R. Nane. (3-6) 5

CIV 3505 SURVEYING II: Upon completion of this course the student should be able to: (1) adjust a triangulation net of a chain of triangles and compute lengths of unmeasured distances; (2) run a stadia traverse, reduce the field notes and plot a map locating physical features within the traverse; (3) run a traverse and locate physical features using a plane table; (4) balance a closed traverse for which angles are measured with a theodolite and distances measured with either a surveyor's tape or an electronic distance measuring device using the compass rule; (5) compute areas of traverses by both the coordinate method and the double meridian distance method; (6) adjust a dumpy level and a transit. P.R. CIV 3504. (3-6) 5

CIV 3506 CONSTRUCTION MATERIALS/METHODS/PLAIN CONCRETE: Upon completion of this course the student should be able to: (1) identify construction materials and their physical properties; (2) discuss the manufacturing processes used to produce common building materials; (3) identify types of construction equipment and their applications; (4) explain the methods used to assemble building components; (5) through site visitation evaluate the actual application of construction techniques; (6) describe the characteristics of coarse and fine aggregates suitable for use in Portland Cement Concrete; (7) design a concrete mix based on strength and durability requirements; (8) conduct tests for compressive strength on concrete cylinders; (9) describe the effect on strength of concrete of various curing methods. P.R. Nane. (3-6) 5

CIV 3514 STATICS: Upon completion of this course the student should be able to: (1) identify and differentiate between various systems of forces; (2) solve problems involving the effects of forces acting on bodies at rest; (3) solve either graphically or analytically for the magnitude, direction, sense, and point of application of unknown forces to maintain static equilibrium; (4) apply the fundamentals of static friction; (5) locate centroids of composite areas; (6) compute the rectangular moment of inertia of an area about various axis. P.R. MAT 3504. (3-6) 5

CIV 3524 STRENGTH OF MATERIALS: Upon completion of this course the student should be able to: (1) identify types of stresses that develop in structures; (2) compute deformation and strain in bodies due to stress systems acting on the body including torsional as well as axial; (3) construct shear and bending moment diagrams of beams; (4) solve for stresses caused by tension, bending and shear; (5) compute the deflection in beams; (6) calculate stresses due to combined axial and bending loads; (7) analyze and design welded and bolted connections; (8) apply Euler's equation to columns. P.R. CIV 3514 or MEC 4508. (3-6) 5

CIV 4300 CODES CONTRACTS AND SPECIFICATIONS: Upon completion of this course the student should be able to: (1) state the basic principles and methods most significant in contract relationships; (2) recognize the implication of a contract and match legal terms to proper meaning; (3) demonstrate an ability to interpret and outline construction specifications; (4) use the state and local building codes as a reference for design and construction; (5) demonstrate an understanding of the implication of code requirements. P.R. ARC 3435. (2-3) 3

CIV 4304 CONSTRUCTION PLANNING (CPM): Upon course completion the student should be able to: (1) define the operations comprising a construction project; (2) establish time estimates for each operation; (3) determine the proper sequence of operations and coordination of building trades; (4) apply manually and using a computer the critical path method (CPM) to construction planning and scheduling; (5) allocate resources and level manpower; (6) analyze time-cost relationship. P.R. CIV 3506. (2-3) 3

CIV 4424 FOUNDATION CONSTRUCTION: Upon completion of this course the student should be able to: (1) list the techniques of subsurface soil investigation; (2) apply earth pressure theories for bearing capacity and principles of foundation action; (3) determine lateral earth pressure both analytically and graphically; (4) analyze and design, using ultimate strength method, reinforced concrete wall footings, individual column footings, combined footings, pile foundations and retaining walls; (5) design excavation bracing, including sheet piling. P.R. CIV 4527, CIV 4534. (2-6) 4

CIV 4404 STRUCTURAL DRAFTING AND DESIGN: Upon completion of this course the student should be able to: (1) design and detail the component parts of steel structures including riveted, bolted and welded connections; (2) analyze continuous beams; (3) design composite construction floor systems with the use of the AISC Manual; (4) analyze and detail the component parts of reinforced concrete structures. P.R. CIV 4527, ARC 3435, C.R. CIV 4534. (2-6) 4

CIV 4444 CONSTRUCTION OF ROADS AND PAVEMENTS: Upon completion of this course the student should be able to: (1) classify a sample of soil based on the Unified Classification System; (2) perform and interpret the results of the Liquid Limit, Plastic Limit, Standard Proctor and the California Bearing Ratio Tests; (3) construct a Mass Diagram from a set of cross-section notes and compute average haul and limit of economic haul; (4) compute run-off from drainage area; (5) determine culvert and ditch sizes; (6) determine the thickness of flexible and rigid types of highway surfaces. P.R. CIV 3506, CIV 3524, CIV 4506. (3-3) 4

CIV 4454 CONSTRUCTION ESTIMATES AND COSTS: Upon completion of this course the student should be able to: (1) use the knowledge to check contract documents for complete package necessary for the estimate of a job; (2) determine equipment and methods necessary for construction; (3) discuss the various bid terms as they affect construction; (4) complete quantity surveys on commercial, residential and roadway construction; (5) apply pricing to quantity surveys; (6) use approximate methods for determination of building costs; (7) submit simulated bids for a bid opening and evaluate the results of a bid opening. P.R. ARC 3435, CIV 3506. (2-6) 4

CIV 4506 SURVEYING III: Upon course completion the student should be able to: (1) use the County Register of Deeds Office records to research property records and state the requirements for filing of property maps and deeds; (2) perform a property survey including the preparation of record documents; (3) lay out cross-sections of roadways and from the sections compute

earthwork quantities; (4) calculate and stake out horizontal and vertical roadway curves; (5) apply the methods of lines and grades to a roadway design problem; (6) lay out foundations and give lines and grades for construction of a building; (7) discuss basic theory of photogrammetry and its application. P.R. CIV 3505. (3-6) 5

CIV 4527 STEEL AND TIMBER DESIGN: Upon completion of this course the student should be able to: (1) analyze and design steel beams, tension members, columns, members involving combined axial and bending stresses, continuous spans, welded, bolted, and riveted connections; (2) use the latest American Institute of Steel Construction Manual and specifications; (3) analyze and design timber members and their connections. P.R. CIV 3524. (3-6) 5

CIV 4534 REINFORCED CONCRETE DESIGN: Upon completion of this course the student should be able to: (1) analyze and design, by means of the ultimate strength method of the latest ACI Building Code, reinforced concrete rectangular beams, T-Beams, continuous members, columns, and floor systems, composed of beams and one-way slabs; (2) use the latest CRSI Design Handbook; (3) calculate the basic stresses of prestressed concrete beams; (4) design forms for concrete structures. P.R. CIV 3506, CIV 3524. (3-6) 5

CIV 4__94 INDEPENDENT STUDY: This course is designed to provide students with the opportunity to develop special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 Credits)

COMMUNICATIONS

COM 1304 INTRODUCTION TO COMMUNICATION: Upon successful completion of COM 1304, the student should be able to write, using standard American English and effective word choice, paragraphs and multi-paragraph expository themes which have a clear beginning, substantial support, a definite end and are free of grammatical constructions that are impediments to communication. A variety of activities including reading, lecture/discussion, prewriting and writing will be utilized to achieve these ends. P.R. Approved placement exam score, successful completion of ENG 9510 or by consent of department head. (3-0) 3

COM 1305 ENGLISH COMPOSITION II: This course is designed to provide the student with opportunities to develop critical thinking skills which will be utilized in written compositions based upon the student's analysis and interpretation of prose selections, including the short story and the novel. Utilization of secondary sources will be required for one of the major written assignments. P.R. COM 1304 or consent of department head. (3-0) 3

COM 1306 ENGLISH COMPOSITION III: Upon successful completion of COM 1306, the student should be able to use basic research techniques to write a formally documented research paper. The student will also be able to write critically and objectively about ideas expressed in drama and poetry. P.R. COM 1305 or consent of department head. (3-0) 3

COM 1324 CREATIVE WRITING: This course is designed to provide students with the opportunity to practice the craft of writing in a range of assignments: prose, fiction, poetry and fantasy. Students' writings are read and critiqued in class. Discussion probes the practical aspects of technique, style and development. (3-0) 3

COM 1325 ADVANCED CREATIVE WRITING: This course is designed to provide vigorous writing experience and intensive critique for the serious student working on independent projects. Practice in the technique of writing prose, fiction, particularly the short story, is emphasized and directed at the professional level. P.R. COM 1324 or consent of department head. (3-0) 3

COM 2390 INDIVIDUAL STUDY: This offering is made to provide students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the department. Objectives will be determined by the student and the sponsoring instructor. P.R. Approval of the sponsoring instructor and the department head. (3-0) 3

COM 3305 COMMUNICATIONS II: Upon successful completion of COM 3305, the student should be able to prepare various types of business communications including letters, memoranda, and resumes. The student should also be able to demonstrate application of the basic principles of English by developing adequate sentences, paragraphs, and whole compositions. P.R. COM 1304 or consent of department head. (3-0) 3

COM 3306 COMMUNICATIONS III: Upon successful completion of COM 3306, students should be able to use the resources of a library to research, develop and write a technical report pertaining to their chosen curricula and will be able to prepare various types of business communications including technical descriptions and explanations of technical processes. P.R. COM 3305 or consent of department head. (3-0) 3

COM 3315 ADVANCED GRAMMAR: Upon successful completion of COM 3315, the student should be able to use Standard English word forms in proper relationship to other words in a sentence. P.R. COM 1304 or consent of department head. (3-0) 3

COM 5301 COMMUNICATIONS SKILLS II: Upon successful completion of COM 5301, the student should be able to identify some of the major barriers to communications, use basic research procedures and produce a properly documented library paper, correctly spell 150 of the most frequently misspelled words in business correspondence and be able to write business letters free from major mechanical errors. P.R. COM 5500 or consent of department head. (3-0) 3

COM 5500 COMMUNICATIONS SKILLS: Upon successful completion of COM 5500, the student should be able to pronounce, spell, and define words directly related to the student's technical or trade area; write job-related letters and a personal resume; discuss a given topic both orally and in writing; and demonstrate familiarity with periodicals in the student's trade field. (5-0) 5

CORRECTIONAL SCIENCE

CSC 3500 INTRODUCTION TO CORRECTIONS: Upon completion of this course the student should be able to: (1) demonstrate a broad overview of corrections, probation and parole; (2) discuss correctional concepts; (3) understand the rights of convicted criminals; (4) understand correctional administrative functions; (5) discuss various job positions and classifications common to State and Federal Agencies and institutions devoted to corrections. P.R. None. (5-0) 5

CSC 3501 CORRECTIONAL PSYCHOLOGY: Upon completion of this course the student should be able to: (1) identify the most common psychological demands, affects and effects of the corrections function upon personnel; corrections officer; treatment staff; probation and parole officer; court officer and related fields charged with supervision and treatment of persons held in confinement; (2) demonstrate an understanding of programs used to classify and treat inmates; (3) identify the causes of controlling people in confinement, its psychological impact on the custody staff and subordinates; (5) identify the types of inmates and their behavioral characteristics; (6) know the remedial services that are available. P.R. None. (5-0) 5

CSC 3504 JUVENILE JUSTICE SYSTEM: Upon completion of this course the student should be able to: (1) cite the history and evaluation of the Juvenile Justice System; (2) outline the present day Juvenile Court process and procedure; (3) identify the characteristics of the juvenile offender and their sub-culture; (4) depict the process from arrest to final disposition for juvenile offenders; (5) be acquainted with the variety of dispositions; (6) differentiate between the adult and juvenile justice systems while understanding their ramifications; (7) develop alternatives in incarceration; (8) know the conflicting theories and ideologies of treatment and prevention; (9) identify the need for professional personnel and their respective manpower requirements; (10) develop the necessary attitude, empathy and knowledge to assist in working in and with the juvenile justice system. P.R. None. (5-0) 5

CSC 3514 CONTEMPORARY CORRECTIONAL INSTITUTIONS: Upon completion of this course the student should be able to: (1) discuss concepts and standards in the development of modern correctional institutions; (2) understand and discuss the differentiation of adult and juvenile systems and difference between the two; (3) discuss organization, administration and manpower need within the correctional programs (State and Federal); (4) implement the aspects of offender classification; (5) evaluate community based correctional operations; (6) understand the role of volunteers in corrections. P.R. CSC 3500. (5-0) 5

CSC 3524 PROBATION/PAROLE: Upon completion of this course the student should be able to: (1) discuss the origins of probation from common law through the present statutes; (2) discuss the legal rights of prisoners in all aspects; (3) understand how ordinary political or civil rights may be taken away as a result of criminal conviction and how they may be restored; (4) understand parole revocation procedures from arrest, to hearing, through judicial review; (5) discuss the types and kinds of conditions of probation; (6) discuss group treatment programs; (7) understand the various community resources available for the probationer and parole. P.R. CSC 3500. (5-0) 5

CSC 4504 CORRECTIONS/NOW & FUTURE: Upon completion of this course the student should be able to: (1) evaluate correctional system performance; (2) develop and evaluate correctional statistical data; (3) define and evaluate correctional treatments and community resources; (4) identify sources of resistance to correctional reform; (5) research ethical and legal issues involved with offender populations; (6) submit periodic position papers. P.R. CSC 3500. (5-0) 5

CSC 4514 CORRECTIONS/COMMUNITY BASED PROGRAMS: Upon completion of this course the student should be able to: (1) develop a concept (at least one page) of integration and acceptance of community programs within corrections/community based programs; (2) develop methods of identifying and coordinating community resources; (3) develop methods of identifying and coordinating community responsibilities; (4) develop and coordinate inmate involvement in community programs; (5) conduct indepth study of alternatives to incarceration. P.R. CSC 3500. (5-0) 5

DENTAL ASSISTING

DEA 5204 DENTAL ASSISTANT SEMINAR: A study of personal responsibilities as a practitioner, including employee-employer relations, opportunities for continued development as a person and as a member of the dental health team, and evaluation of clinical experience. P.R. Fourth quarter standing in Dental Assisting Curriculum. C.R. DEA 5845. (2-0-0) 2

DEA 5300 ANATOMY AND PHYSIOLOGY: Upon completion of this course the student should be able to: (1) recognize, recall facts and specifics regarding general anatomy of the body and basic concepts of the normal functions of body systems; (2) utilize knowledge and understanding of the basic structure surrounding the teeth; (3) designate formation of primary and permanent dentition, basic anatomy of individual teeth and the application of these to the carving of restorative patterns. C.R. DEA 5304 and DEA 5600. (3-0-0) 3

DEA 5302 INTRODUCTION TO DENTAL ASSISTING: Upon successful completion of this course the student should: (1) know purpose, history and progress of dentistry; (2) understand and begin to abide by laws and ethics governing the dental profession; (3) identify members of dental health team, their education, training, function and respective professional conduct, personal hygiene and dental terminology; (5) be able to operate equipment in dental clinic; (6) be able to receive, prepare for operation and dismiss patients properly. C.R. DEA 5600 and DEA 5304. (2-0-3) 3

DEA 5304 PRECLINICAL SCIENCE I: Upon completion of this course the student should be able to: (1) demonstrate how bacteriology and dental health are related; (2) designate techniques for successful coping with the bacteriological problems which arise in the dental office; (3) use knowledge of diet and nutrition as applied to dentistry. C.R. DEA 5302 and DEA 5300. (3-0-0) 3

DEA 5305 PRECLINICAL SCIENCE II: Upon completion of this course the student should be able to: (1) recognize and explain fundamental concepts of the more common diseases and disease processes in the oral cavity; (2) state dosage, methods of administration and storage of common drugs and medicaments used in the dental office; (3) perform dental first aid and emergency care for the patient in the dental office. P.R. DEA 5300 and DEA 5304. (3-0-0) 3

DEA 5344 DENTAL OFFICE PRACTICE I: An introduction to practice in the dental office and clinic as a chairside and coordinating assistant. Upon successful completion of this course the student should be able to: (1) perform at second level of proficiency at chairside with dentist and patient in all dental procedures offered at the school clinic; (2) demonstrate the ability to apply classroom theory in the dental clinic in the areas of schedule management anticipation, operatory preparation, radiology, instrument management, sterilization, supply management, laboratory procedures and maintenance as coordinating assistant. P.R. Third quarter standing in the Dental Assisting Curriculum. (0-0-9) 3

DEA 5390 INDIVIDUAL STUDY: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. P.R. None. (3-0) 3

DEA 5414 DENTAL ROENTGENOLOGY: Upon completion of this course the student should: (1) know the rationale and utilize methods for protecting the patient and operator from ionizing radiation and the principles involved in the production of x-rays; (2) correctly identify parts of the dental x-ray unit and discuss the function of these parts; (3) be able to prepare a diagnostically acceptable series of dental x-rays using a variety of intraoral techniques; (4) correctly identify and be familiar with extraoral techniques for: Panorax, cephalometric (head plate), lateral jaw, impacted third molars; (5) be able to identify various processing equipment, correctly process films using darkroom facilities; (6) correctly identify the anatomical landmarks which may be seen on individual films from a full series of radiographs, select appropriate film mounts and correctly mount a full series of radiographs; (7) recognize errors in film placement, exposure, and processing and be able to correct them. P.R. DEA 5300 and DEA 5600. (2-0-6) 4

DEA 5424 CLINICAL PROCEDURES I: Upon successful completion of this course the student should be able to: (1) identify and effectively handle various types of dental equipment and instruments in general dentistry; (2) perform at second level of proficiency in patient preparation and dismissal including post-operative instructions; (3) demonstrate first level of proficiency at chairside with dentist and patient in oral evacuation, passing and receiving instruments from prepared tray and preparation

and delivery of dental materials needed for given operation. P.R. DEA 5300, DEA 5302, DEA 5600, DEA 5304. C.R. DEA 5414.

(2-0-6) 4

DEA 5525 CLINICAL PROCEDURES II: This continuation of DEA 5424 deals with the eight specialties of dentistry in order that the student may adapt to work situations in these areas. Upon completion of this course the student should: (1) be able to identify and effectively handle various types of dental equipment and instruments in the dental specialties; (2) have demonstrated the ability to assist in limited pedo, perio, endo and oral surgery procedures in the school clinic. P.R. Third quarter standing in the Dental Assisting Curriculum.

(4-0-3) 5

DEA 5534 DENTAL OFFICE MANAGEMENT: The student in this course will be exposed to the principles and procedures related to managing a dental office. Upon completion of this course the student should be able to: (1) manage dental office inventory and supply; (2) keep financial and clinical records; (3) effectively utilize cavity classification and nomenclature; (4) demonstrate effective telephone technique; (5) maintain appointment book control. P.R. Third quarter standing in the Dental Assisting Curriculum.

(4-0-3) 5

DEA 5600 DENTAL MATERIALS: Upon completion of the course the student will be able to demonstrate a knowledge of the theory of intra and extra oral materials on written examination. The student will also demonstrate a sufficient level of skill in the laboratory and clinical application of those more routinely used materials. Through the integration of lecture and laboratory experience the student will be able to properly select and manipulate materials for a given procedure. C.R. DEA 5300 and DEA 5302.

(3-9-0) 6

DEA 5845 DENTAL OFFICE PRACTICE II: Continuation of DEA 5344 with same objectives for the student to be performed at third level of proficiency through assignments rotated to encompass experience in office management, dental office laboratory procedures, specialty offices, in private practice, hospital dental clinic and the school clinic. P.R. Fourth Quarter standing in Dental Assisting Curriculum. C.R. DEA 5204.

(0-0-24) 8

DENTAL HYGIENE

DEN 3224 HEAD AND NECK ANATOMY: The student will know the bones of the skull, their location and landmarks. In addition, the knowledge of the muscles, their blood and nerve supply will be required of and demonstrated by the student. P.R. DEN 3405.

(2-0-0) 2

DEN 3314 PREVENTIVE DENTISTRY I: On completion of Preventive Dentistry I, the student will be able to: understand the dental needs of individual patients and to provide a basic outline of principles and techniques for certain phases of dental hygiene care and instruction; describe the composition and etiological factors governing a variety of dental deposits, such as stain, dental plaque, dental calculus and materia alba; student will gain a basic knowledge of the decay process and the progress of gingivitis and periodontal disease. The student will apply principles governing the use of various toothbrushing techniques and auxiliary and plaque control methods when presented with hypothetical situations; gain basic knowledge of the following: the history of dental hygiene and the professional association; and the duties of a dental hygienist in patient education and prevention of dental diseases. P.R. None.

(3-0-0) 3

DEN 3404 DENTAL ANATOMY I: Upon completion of the subject the student will recall specific anatomical structures of the dentition and will carve or draw to scale any anterior tooth. The student will also demonstrate a familiarity with dental terminology, a knowledge of gross oral anatomy, and a collection of the eruption succession of the teeth. P.R. None.

(1-6-0) 5

DEN 3405 DENTAL ANATOMY II: A continuation of Dental Anatomy I. The successful student will be able to draw and carve any tooth in the permanent or deciduous dentition. The student will exhibit an awareness of comparative morphology or the teeth including root formation. In addition the student will demonstrate the ability to chart and record oral conditions of the human dentition and the ability to classify occlusion. P.R. DEN 3404.

(1-6-0) 4

DEN 3524 DENTAL HYGIENE I: Through practice on manikins and eventually upon each other, the student will demonstrate the ability to record, plan and execute a dental prophylaxis maintaining aseptic conditions without traumatizing hard and soft tissues. A familiarity with the instruments and their use is required. P.R. DEN 3314 and DEN 3405.

(2-6-0) 5

DEN 4104 CLINICAL THEORY I: Through lecture, demonstration and practice in the clinic, the dental hygiene student will demonstrate familiarity with use of the ultrasonic scaler, methods of plaque control instruction, principles of root planing, and the techniques of amalgam polishing. Students will be required to demonstrate dental hygiene assisting skills. Interesting case histories from clinical experience will be presented by each student. P.R. DEN 3405.

(1-0-0) 1

DEN 4105 CLINICAL THEORY II: A continuation of DEN 4104 with an emphasis on restorative dentistry procedures. The student will be familiar with common procedures and restorative techniques generally carried out in a general dental practice. The student will demonstrate applications of principles and theories as learned in the classroom for their clinical patients, when applicable. Each student will be required to present interesting case histories to the class for discussion. P.R. DEN 4104.

(1-0-0) 1

DEN 4106 CLINICAL THEORY III: Upon completion of this course, the student will be able to prepare a curriculum vitae. The student will be familiar with employment interview techniques. Students through discussions and field trips will become familiar with the procedures used during state licensure examinations. Through lectures from guest specialists, the student will become familiar with various dental specialties. P.R. DEN 4105.

(1-0-0) 1

DEN 4114 PERIODONTICS: Upon completion of this course the student will be able to differentiate between normal and abnormal periodontal conditions and clinically perform the less sophisticated treatment. In addition, the student will educate patients in the prevention and control of periodontal disease. The student will become familiar with periodontal treatment techniques carried out by the periodontist. P.R. DEN 4425.

(1-0-0) 1

DEN 4200 OFFICE EMERGENCIES: Upon completion of this course the student will be able to detect, prevent or administer to the needs of the patient who presents an emergency condition. P.R. BIO 4505.

(2-0-0) 2

DEN 4204 PHARMACOLOGY: Students will demonstrate a knowledge of pharmacological nomenclature and terms, sources of drugs, fundamental types of pharmacologic action, patient reaction to drugs and treatment of adverse reactions. Types and classes of drugs will be enumerated. The student will write a general outline for a prescription and indicate a knowledge of the laws dealing with drugs. P.R. None.

(2-0-0) 2

DEN 4214 PRACTICE ADMINISTRATION: The student will be required to exhibit proficiency in the basic procedures and forms utilized in the dental office in regard to the utilization of time, money, personnel, space, equipment and supplies. In addition, the student will know the code of ethics and the jurisprudence pertaining to dentistry. P.R. None.

(2-0-0) 2

DEN 4231 GENERAL PATHOLOGY: The student will become familiar with the general principles of pathology. Student will have a general knowledge of the inflammatory response, types of necrosis, stages of healing, and systemic disease affecting the oral cavity. P.R. BIO 1505.

(2-0-0) 2

- DEN 4301 DENTAL RADIOLOGY:** The student will know the theory and basic fundamentals in the production of x-rays. The student will be held responsible to know the safety precautions to be utilized and the legal implications involved in radiologic exposure. The successful student will be adept in taking radiographs first on manikins, next on each other and finally on clinical patients. The student will recognize and distinguish between good and bad radiographic techniques. P.R. DEN 3524. (2-3-0) 4
- DEN 4304 EMBRYOLOGY AND ORAL HISTOLOGY:** The student will be able to describe the embryological development of the head and neck with specific emphasis placed upon oral structures such as teeth, glands, tongue, etc. Recognition of oral defects including dental defects due to irregular development and their clinical significance will be evaluated by the student. Student will gain microscopic and histologic knowledge of dental and oral structures. The student is encouraged to relate the knowledge gained from this subject with the clinical patient. P.R. BIO 1505. (3-0-0) 3
- DEN 4315 PREVENTIVE DENTISTRY II:** Upon completion of this course the student will be able to: explain a variety of personality types and adapt a good program for teaching effective patient education to individual personality traits; develop effective teaching aids for patient education which are adapted to a variety of age groups. The aids the student must develop are as follows: posters, bulletin boards, table clinics and flannel boards. Students teach patient education to special groups such as public kindergartens, schools and civic organizations and adapt their programs to accommodate the age levels. P.R. DEN 3314 (3-0-0) 3
- DEN 4316 PREVENTIVE DENTISTRY III:** Successful conclusion of this subject insures that an overall ability will be evidenced by the student to survey population groups by the use of various indices to determine types of people, needs, motivational and educational needs; the student will compare private and public health vacations, he/she will demonstrate an awareness of community health problems and the structure of the public health system within the state. P.R. DEN 4315. (3-0-0) 3
- DEN 4332 ORAL PATHOLOGY:** Upon completion of this course the student will be able to differentiate between pathologic and non-pathologic conditions appearing in the oral cavity and surrounding region. P.R. DEN 4231. (3-0-0) 3
- DEN 4390 INDIVIDUAL STUDY:** This is the subject geared to the individual needs of the student and may encompass any review material or refresher material to assist in the successful completion of the National or the state board examinations. P.R. None. (3-0-0) 3
- DEN 4425 DENTAL HYGIENE II:** The student will accomplish a complete satisfactory dental prophylaxis on a number of selected child and adult clinical patients. A home care program for the individual patient will be developed along with accurate periodontal and dental charting. The ability to sharpen instruments will be developed. P.R. DEN 3504. (1-0-9) 4
- DEN 4426 DENTAL HYGIENE III:** The student daily performs a complete prophylaxis on adults including root planing, homecare, charting and necessary radiographs. Proficiency is required in the use of ultrasonic scaling devices, the polishing of restorations and motivating the patient to proper home care. The student will acquire minor dental assistant capability. Week long assignments to dental clinics of various hospitals will be mandatory. P.R. DEN 4425. (0-0-12) 4
- DEN 4500 DENTAL MATERIALS:** Upon completion of this course the student must know the composition and properties of materials employed in dentistry and their behavior under different treatments. The student must be able to mix various materials to be used by the dentist. The student must evidence a knowledge of the proper storage of dental materials. Student will be able to successfully pour up and trim study models. Many of these attainments are met by extensive use of the laboratory. P.R. None. (3-4-0) 5
- DEN 4527 DENTAL HYGIENE IV:** The student will continue to gain experience in providing patients with dental hygiene care. The student will provide nutritional counseling, will remove non-functioning over-hanging restorations, and polish amalgam restorations. The student will continue to visit extramural clinics. P.R. DEN 4426. (0-0-15) 5
- DEN 4628 DENTAL HYGIENE V:** The student will develop speed and efficiency in accomplishing a dental prophylaxis to prepare for entrance into the work market. The student will make office visits to become acquainted with the variety of methods of patient care and services available in different types of practices. The student will also observe the care provided by the dental hygienist in various dental practices. P.R. DEN 4527. (0-0-18) 6

DRAFTING

- DFT 3400 ELECTRICAL-ELECTRONICS DRAFTING:** Upon completion of this course the student should be able to: (1) use drafting equipment to layout simple geometric constructions; (2) letter words and numbers; (3) draw and dimension elementary orthographic drawings; (4) prepare, from a rough circuit sketch, the following simple electrical and electronic drawings: a. electrical schematic, b. wiring diagram, c. electronic schematic, d. printed circuit layout, e. component layout for printed circuit and, f. ladder diagram. P.R. None. (2-6) 4
- DFT 3404 TECHNICAL DRAFTING I:** Upon completion of this course the student should be able to: (1) use drafting equipment and instruments; (2) letter words and numbers in Gothic; (3) draw orthographic and pictorial freehand sketches; (4) layout geometric constructions; (5) execute orthographic drawings by use of instruments; (6) dimension drawings and apply notes to drawings; (7) reproduce, file, and store drawings; and (8) execute simple "working" drawings. P.R. None. (2-6) 4
- DFT 3405 TECHNICAL DRAFTING II:** Upon completion of this course the student should be able to: (1) apply orthographic projection principles to more complex drafting problems including those with various kinds of holes; (2) read and draw the conventions of line elimination and revolving out of position; (3) read, draw, and dimension the various kinds of sectional views; (4) read and draw pictorial views of oblique and isometric and (5) read, draw, and dimension auxiliary views. P.R. DFT 3404. (2-6) 4
- DFT 3406 DESCRIPTIVE GEOMETRY:** Upon completion of this course the student should be able to: (1) analyze and solve, graphically, space problems which involve points, lines and planes; (2) verify solutions to problems analytically when appropriate; (3) relate these problems in Engineering Design; and (4) visualize the field problem which is shown on paper. P.R. DFT 3405. (2-6) 4
- DFT 4254 ENVIRONMENTAL SYSTEMS DRAWING I:** Upon completion of this course the student should be able to: (1) use scales; (2) letter properly; (3) draw orthographic projections; (4) draw sections; (5) dimension; (6) show isometric pictorial; (7) duct drafting and (8) electrical drafting. All examples will be applied to the air conditioning, heating and refrigeration discipline. P.R. None. (1-2) 2
- DFT 4____94 INDEPENDENT STUDY:** This course is designed to provide students with the opportunity to develop special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. P.R. None. (1-5 Credits)

DFT 5300 BASIC BLUEPRINT READING: Upon completion of this course the student should be able to: (1) visualize a three-dimensional object; (2) relate the shape and size correctly and accurately to a pictured object; (3) read and understand drawing conventions, symbols, and notations; (4) interpret the proper operations and shop procedures needed to produce objects shown on simple prints; and (5) communicate shape and size of simple objects through sketches. P.R. None. (3-0) 3

DFT 5304 BLUEPRINT READING FOR MACHINIST: Upon completion of this course the student should be able to: (1) read and interpret more complex drawings than those in DFT 5300; (2) apply some of the basic drafting practices common in the machine trade; and (3) draw simple details and assemblies. P.R. DFT 5300. (3-0) 3

DFT 5400 BLUEPRINT READING AND SKETCHING: Upon completion of this course the student should be able to: (1) read the more complex orthographic prints; (2) read and sketch detail and simple assembly drawings; and (3) read and sketch some of the symbols of the welding industry. P.R. DFT 5300. (3-2) 4

DRAMA

DRA 1300 INTRODUCTION TO DRAMA: Upon successful completion of this course, the student will have developed skills in analyzing the nature of the theater and the nature of drama. He will demonstrate his mastery of the principles of play analysis and an understanding of the fundamentals of technical production. (3-0) 3

DRA 1301 STAGECRAFT: Upon successful completion of this course, the student will have a working knowledge of theatre buildings and their equipment, working drawings, and scene shop organization. He will have had practice in scenery construction and painting. Participation on technical crews of the college theater productions required. (1-4) 3

DRA 1302 SCENE DESIGN: Upon successful completion of this course, the student will have researched and developed scene designs for a variety of presentation styles and theater stages and will demonstrate an understanding of current design practices. (1-4) 3

DRA 1303 ACTING: Upon successful completion of this course, the student will have acquired practice in developing and controlling the voice, body, and emotions as instruments of expression. The student will be encouraged to free and use imaginative resources and critical faculties through controlled practice. (1-4) 3

DRA 1304 ADVANCED ACTING: A continuation of DRA 1303. Upon successful completion of this course, the student will demonstrate an understanding of more advanced acting theories with special attention given to verse drama, musical theater, and specialized stage movement and exercises. P.R. Acting 1303 or consent of instructor. (1-4) 3

DRA 1310 PLAY PRODUCTION — ONE ACTS: Upon successful completion of this course, the student will demonstrate an understanding of the basic practices and principles governing the staging of one-act plays. The laboratory consists of the rehearsing and performing one-act plays. (0-6) 3

DRA 1311 PLAY PRODUCTION — COMEDY/DRAMA: Upon successful completion of this course, the student will demonstrate an understanding of the basic practices and principles governing the staging of a full-length comedy or drama. The laboratory consists of the rehearsing and performing of full-scale production of a comedy or drama. (0-6) 3

DRA 1312 PLAY PRODUCTION — MUSICAL: Upon successful completion of this course, the student will demonstrate an understanding of the basic practices and principles governing the staging of musicals. The laboratory consists of rehearsing and performing a full-scale production of a musical. (0-6) 3

DRA 2204 SPECIAL PROBLEMS IN DRAMA: An advanced problems course of guided studies involving laboratory and library work. P.R. Approval of instructor. (1-3) 2

DRA 2304 DIRECTING: Upon successful completion of this course, the student will demonstrate a knowledge of the theories related to directing a stage production and will have direct scenes for evaluation. (1-4) 3

DRA 2414 FILM CRITICISM: Through discussions and film screenings, the student should be able to develop a critical appreciation for the elements of film and should be able to formulate a critical response to the film medium in writing and in conversation, demonstrating an intelligent reaction to any film. (3-2) 4

DIESEL ENGINE MECHANIC

DSL 5300 DIESEL FUNDAMENTALS: Upon completion of this course the student should be able to: (1) recognize the advantages of supercharging and aftercooling as it affects basic engine design and performance; (2) recognize the advantages of direct and indirect fuel injection; (3) demonstrate a basic knowledge of four types of fuel injection metering systems; (4) recognize the advantages of mechanical and hydraulic limiting speed and variable speed engine governors; (5) demonstrate the use of basic measuring instruments to determine engine component serviceability; (6) demonstrate proper use of a nozzle tester; (7) perform basic operation and maintenance of pump calibration stand. P.R. None. (2-3) 3

DSL 5304 HYDRAULICS AND PNEUMATICS: Upon the completion of this course the student will demonstrate a basic knowledge of the following hydraulic and pneumatic components; (1) vane type pump or motor; (2) gear pump or motor; (3) piston pump or motor; (4) pressure or flow control valve; (5) brake application valve; (6) limiting, quick release valve; (7) relay, quick release valve; (8) air compressor; (9) tractor protection valve. P.R. None. (2-2) 3

DSL 5404 CATERPILLAR DIESELS: Upon completion of this course the student should be able to: (1) determine the serviceability of a Caterpillar engine's components as compared to tolerances and wear limits published in the engine manual; (2) install an injection pump and run the engine; (3) use the proper test equipment to test and adjust the scroll type injection pump and differential type nozzles; (4) check injection timing using the fuel flow method. P.R. DSL 5300. (2-6) 4

DSL 5405 CUMMINS DIESELS: Upon completion of this course the student should be able to: (1) determine the serviceability of a Cummins engine's components as compared to tolerances and wear limits published in the engine manual; (2) use the timing fixture to set injection timing; (3) set valves and injectors by the dial indicator method and by the torque method; (4) use the proper test equipment to test and adjust the PT pump; (5) check rail pressure and adjust high and low idle. P.R. DSL 5300. (2-6) 4

DSL 5406 DETROIT 2-CYCLE DIESELS: Upon completion of this course the student should be able to: (1) determine the serviceability of a Detroit engine's components as compared to tolerances and wear limits published in the engine manual; (2) do a complete tune-up in the proper sequence of adjustments; (3) use the proper test equipment and check engine pressures; (4) assemble a blower and set the clearances to specifications; (5) use the proper test equipment to test a unit injector for serviceability. P.R. DSL 5300. (2-6) 4

DSL 5407 MACK DIESELS: Upon completion of this course the student should be able to: (1) determine the serviceability of a Mack engine's components as compared to tolerances and wear limits published in the engine manual; (2) clean and test an

injector nozzle; (3) evaluate the condition of an engine cylinder with the aid of a compression tester; (4) evaluate the condition of a turbocharger's shaft bearings; (5) set injection timing by the fuel flow method; (6) test the operation and fuel delivery of an APE American Bosh injection pump and governor. P.R. DSL 5300. (2-6) 4

ECONOMICS

ECO 2304 ECONOMICS I (MACRO): Upon successful completion of the course the student should be able to apply economic concepts to basic and current national problems; trace the development of economic philosophies as they relate to traditional, command, and market economics; evaluate the role of federal programs in the areas of GNP, monetary and fiscal policy, and business cycles; demonstrate ability to use primary sources in understanding economic problems. (3-0) 3

ECO 2305 ECONOMICS II (MICRO): Upon successful completion of the course the student should be able to describe and apply the theory of our pricing system to the competitive firm as well as to those business organizations in imperfect competition. (3-0) 3

ECO 2306 ECONOMICS III: Upon successful completion of the course the student should be able to apply an economic approach to temporary problems and issues in such areas as growing world population and rising consumption, how each of these relates to such items as world trade, ecology, comparative economic systems and current issues. (3-0) 3

ECO 3301 AMERICAN ECONOMIC HISTORY: Upon successful completion of the course the student should be able to discuss the concepts which have contributed to the nation's economic productivity from Colonial times to the present, detailing those areas which have facilitated the nation's growth in transportation, trade and finance. (3-0) 3

ECO 3302 LABOR ECONOMICS: Upon successful completion of the course the student should be able to trace the historical growth of labor unions and describe the theories of labor and the development of effective labor and wage policies. The discussion method will be used in studying current labor questions and the problems arising from the working environment. (3-0) 3

INTERIOR DESIGN IN COMMERCIAL ART

EDN 4200 INTERIOR DECORATION FOR THE HOME OWNER: The student, upon completion of this course, should be able to plan a personal home interior emphasizing the following areas: convenience, comfort and beauty, furniture and furnishings arrangement. (1-2) 2

EDN 4201 COLOR SCHEMES FOR INTERIOR DESIGN: The student will work from home plans in solving everyday color problems. The emotional, thermal and optical effects of color arrangements for interiors will be studied. The student should be able to plan and develop a color scheme for an interior, working with existing colors or working out a completely new color scheme. (1-2) 2

EDN 4202 THESIS: The student will plan and execute, with the help and approval of the curriculum advisor, a project reflecting original concepts relating to the student's interests and field of specialization. The project will integrate experience in the program and will reflect conditions the student will encounter upon employment. The student will also prepare a portfolio. P.R. EDN 4415. (0-4) 2

EDN 4203 PERIOD FURNITURE AND FURNISHINGS: The student will study period styles in chronological order from Egyptian through American furniture and furnishings and will learn to recognize the influence of these styles. The student should be able to identify the major period styles currently popular today. (2-0) 2

EDN 4210 ANTIQUE FURNITURE AND FURNISHINGS: The student will study antique furniture and furnishings and will explore their use in contemporary interiors. The student will be exposed to antiques from a consumer's point of view and will develop basic evolving skills that can be used to determine a personal value of antiques in general. (2-0) 2

EDN 4300 SURVEY OF INTERIOR DESIGN: The student will acquire a general understanding of the nature and scope of interior design as a profession, contrasting and comparing different specializations within the field of interior design. (3-0) 3

EDN 4301 PRACTICAL PROBLEMS IN INTERIOR DESIGN I: The student will become acquainted with problems the interior designer confronts today and should be able to make complete presentations similar to those submitted by an interior designer to a client. P.R. EDN 4200. (2-2) 3

EDN 4307 SURVEY OF MATERIALS: The student will survey natural and man-made fibers and materials currently available and should be able to select the proper material for a specific application using the following criteria: overall quality, price, durability, color, and material from which the product is constructed. Materials covered: rugs and carpets, furniture, ceramic tile, paint, wallpaper and wall coverings, hardware, textile products, glass, and building materials. P.R. EDN 4414. (1-4) 3

EDN 4314 SURVEY OF PAINTING, SCULPTURE AND INTERIOR DESIGN I: The student will survey art history including painting, sculpture, and interior design. The student will be able to define and compare the major areas of art from classical periods to the Twentieth Century. (3-0) 3

EDN 4315 SURVEY OF PAINTING, SCULPTURE AND INTERIOR DESIGN II: The student will continue to study the major areas of art and will learn to recognize major art movements and interpret their influence on interior design. (3-0) 3

EDN 4400 PROFESSIONAL PRACTICES AND PROCEDURES: The student will study current business practices in the field of interior design. Upon completion of this course, the student should be able to write and design an initial contact form, a letter of agreement, prepare a purchase order, figure wholesale discounts, and do simple job estimating. P.R. EDN 4415. (2-4) 4

EDN 4404 INTERIOR PRESENTATION: The student will develop technical skill in applying elements that compose the exterior and interior environment: fabric, furniture, rock, masonry, foliage, etc. The student will make presentations of designs in simulated designer-clientele relationships and should be able to construct and present simple interior design projects in a professional manner, preparing fabric and material collages and room layouts in ink and color. P.R. VCO 3316, ARC 3434. (2-4) 4

EDN 4406 CONTEMPORARY INTERIORS: The student will study current techniques in designing interiors for residential, commercial and industrial buildings and will learn to recognize and anticipate changing needs. The student should be able to analyze and make recommendation concerning interior design solutions befitting Twentieth Century life styles in residential and contract interiors. P.R. EDN 4415, ARC 3304. (2-4) 4

EDN 4414 APPLIED PROBLEMS STUDIO I: The student will explore fundamentals of interior design in space planning, convenience, function, and effective visual effects and will complete planned problems to achieve workable and practical solutions to current needs, ranging from the single dwelling to the business and recreational complex. The student will prepare graphic solutions in two and three dimensional form. P.R. VCO 3326, ARC 3434, ARC 3303. (2-4) 4

EDN 4415 APPLIED PROBLEMS STUDIO II: The student will apply knowledge and skills from EDN 4414 to advanced solutions to special space problems, preparing presentations and complete specifications. P.R. EDN 4414, ARC 3304. (2-4) 4

EDN 4416 APPLIED PROBLEMS STUDIO III: The student will investigate, plan, and execute interior designs for a cross-section of current interiors and should be able to solve actual complex interior design problems including accurate specifications and construction details. P.R. EDN 4415, ARC 3304. (2-4) 4

EDUCATION

EDU 2500 INTRODUCTION TO EDUCATION: Upon completion of this course, the student will demonstrate a knowledge of the development and present status of education in American society with attention given to the objectives of democratic education and the role of the teacher in their implementation. (Does not satisfy the Social Science requirement.) (5-0) 5

COMPUTER SCIENCE

EDP 1404 COMPUTER CONCEPTS AND FORTRAN PROGRAMMING I: Upon completion of this course the student should be able to: (1) define selected terms pertaining to computer systems and programming; (2) write programs in the FORTRAN language that: (a) read and write with and without formatting, (b) perform arithmetic calculations, (c) use control logic, (d) generate reports with headings and totals, (e) perform operations with one dimensional arrays; (3) prepare data for testing a FORTRAN program. P.R. None. (3-2) 4

EDP 1405 FORTRAN PROGRAMMING II: A continuation of EDP 1404. Upon completion of this course the student should be able to write FORTRAN programs for problem solutions requiring: (1) two dimensional arrays; (2) functions and subroutines; (3) alphabetic data; (4) input/output from tape and disk files; (5) logical operations and output; (6) double-precision real values. P.R. EDP 1404 and MAT 1504, MAT 1514, or MAT 3504, or consent. (3-2) 4

EDP 2306 COMPUTER PROGRAMMING I (BUSINESS): Upon completion of this course the student should be able to: (1) prepare data cards for packaged programs and interpret output; (2) construct basic COBOL programs to solve simple business problems; (3) verify the accuracy of program output; (4) construct basic flowcharts; (5) identify business problems which can be solved with a computer. P.R. EDP 3300 or consent. (2-2) 3

EDP 2307 COMPUTER PROGRAMMING II (BUSINESS): A continuation of EDP 2306. Upon completion of this course the student should be able to: (1) develop program logic and write COBOL programs for solving simple business problems; (2) utilize utility programs to manipulate data files; (3) prepare input data for canned programs and interpret the output; (4) incorporate programming techniques and procedures for magnetic tape and disk processing. P.R. EDP 2306. (2-2) 3

EDP 2308 COMPUTER SYSTEMS AND ASSEMBLY LANGUAGE I: Upon completion of this course a student should be able to: (1) translate from one numbering system to another and perform arithmetic in various numbering systems; (2) describe computer storage representation and addresses for decimal and alphabetic fields; (3) write simple programs using declare, arithmetic, data transfer, compare, branch, and I/O assembly language instructions; (4) identify I/O device storage characteristics and file organizations capabilities; (5) trace the data flow through a computer system identifying hardware functions and characteristics encountered from input to output. P.R. EDP 1404 or EDP 2306. (2-2) 3

EDP 2309 COMPUTER SYSTEMS AND ASSEMBLY LANGUAGE II: A continuation of EDP 2308. Upon completion of this course a student should be able to: (1) write basic programs using declare, arithmetic, data transfer, compare, branch, table storage and I/O assembly language instructions; (2) trace the compilation and execution of a job through a multiprogramming computer system environment and name software programs involved; (3) code JCL statements necessary to execute assembly language programs using sequential files and certain file utilities; (4) define an operating system, listing its advantages. P.R. EDP 2308. (2-2) 3

EDP 2514 STATISTICAL AND NUMERICAL PROGRAMMING: Upon completion of this course the student should be able to write a program to do: (1) the inverse of a Matrix in solving a set of simultaneous equations; (2) Newton's forward interpolation; (3) numerical integration; (4) simplex method; (5) two-way analysis of variance; (6) series expansion. P.R. EDP 1405 and MAT 2504. (4-2) 5

EDP 3300 INTRODUCTION TO COMPUTER CONCEPTS: Upon completion of this course the student should be able to: (1) trace the history of computers; (2) identify the basic steps in solving a data processing problem by tracing the flow of data through a computer system; (3) list and define the functional units of a computer; (4) at an introductory level identify the basic processes in programming; (5) list the job descriptions and qualifications of computer personnel; (6) describe devices and basic procedure in file handling for batch processing systems; (7) identify different programming languages and their usual applications; (8) from the systems analysis point of view, relate problem definition and project analysis, system design, and system development and implementation; (9) identify the characteristics of online systems, such as I/O function, data transmission, file access and response time; (10) identify the efficiency concepts of computer as related to multi-programming and multi-processing; (11) identify sources of computing hardware, software, and services; (12) trace the sequence of purchasing or leasing hardware and software; (13) identify various computer usage; (14) state some of the impacts of computer technology on individuals and the community; (15) define selected terms relating to computer hardware and software. P.R. None. (3-0) 3

EDP 3405 MICROCOMPUTER PROGRAMMING — BASIC: Upon completion of this course the student should be able to: (1) define selected terms pertaining to Microcomputer Systems and Programming; (2) list the hardware devices in typical Microcomputer Systems; (3) write programs in the BASIC language that (a) read/write/calculate (b) use control logic (c) generate reports with headings and summary totals (d) perform operations with arrays; (4) prepare sample data to test a BASIC program; (5) define and explain the purpose of an operating/monitor/executive system; (6) write programs in an interactive environment under control of an editor. P.R. None. (3-2) 4

EDP 3406 PROGRAMMING BUSINESS APPLICATIONS FOR MICROCOMPUTERS: Upon completion of this course the student should be able to: (1) write programs to create/access/update data files; (2) design reports for selected applications; (3) design input record layouts; (4) write programs for selected accounting/business applications; (5) write programs and document systems according to standards. P.R. EDP 3405 or consent. (3-2) 4

EDP 3414 COMPUTER LANGUAGE I — COBOL: Upon completion of this course the student should be able to: (1) analyze given problem definitions and develop solutions from a programming viewpoint at a fundamental level; (2) construct input-processing-output charts and pseudocode specification for a problem solution; (3) write and execute structured COBOL programs for business problems involving data input, basic calculations, code checking, decision making, iterations, reports, headings, and summary totals; (4) prepare test data and verify results of executing a COBOL program; (5) correct syntax and logical errors in a COBOL program. P.R. None. (3-2) 4

EDP 3415 COMPUTER LANGUAGE II — COBOL: Upon completion of this course the student should be able to: (1) write structured COBOL programs to handle one and two level tables of data, iterative processing, multi-level totals, sort files, multiple

file processing and disk and tape I/O; (2) code, test, and debug sample problems; (3) write code which conforms to published departmental standards; (4) use manuals to analyze error messages; (5) demonstrate efficiency in coding techniques for data storage and program testing. P.R. EDP 3414 or consent. (3-2) 4

EDP 3440 ASSEMBLY LANGUAGE: Upon completion of this course the student should be able to: (1) perform arithmetic operations in the hexadecimal and binary numbering system; (2) code selected assembly language statements; (3) interrupt machine language instructions and read hexadecimal dumps; (4) write assembly language programs using technique ranging from reading of cards through address modification, loops, editing, and sorting of 1-level tables; (5) use macro instructions and subprograms. P.R. EDP 3414 and EDP 3415; or consent. (3-2) 4

EDP 4314 SYSTEMS AND PROCEDURES: Upon completion of this course the student should be able to: (1) summarize the state of the art in information systems design; (2) prepare and explain a coding system for business forms; (3) design a business form to users specifications; (4) prepare a project plan and status reports; (5) prepare information oriented flowchart with an appropriate narrative; (6) draw feasibility conclusions; (7) prepare a multiple record layout form; (8) prepare a computer print chart from a report specification. P.R. ACC 1604 or consent. (3-0) 3

EDP 4315 APPLIED BUSINESS SYSTEMS: Upon completion of this course the student should be able to: (1) determine optional storage requirements for specific files and its related accessibility; (2) estimate hardware, software, and person requirements for a specific business application; (3) relate the various business statements (ex. balance sheet, income, cost of goods sold) to the data base; (4) analyze business problems and submit probable solutions; (5) prepare a feasibility study including cost of hardware, programming and systems analysis (cost factors are supplied), personal requirements, and a purchase vs. lease option. P.R. EDP 4314 or consent. (3-0) 3

EDP 4390 INDIVIDUAL STUDY: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. P.R. None. (3-0) 3

EDP 4416 PROGRAMMING TECHNIQUES AND AIDS: Upon completion of this course the student should be able to: (1) using the COBOL language, write a binary search routine, code and call subprograms, generate reports using the report writer feature, utilize the debugging verbs, code the sort statement, and code additional selected verbs; (2) generate screen formats using a selected software package; (3) code program for file inquiry and maintenance from a CRT unit using a selected software package; (4) perform selected program maintenance routines; (5) read hexadecimal dumps, data mops, and procedure mops in debugging a COBOL program; (6) compare update logic for various file organizations; (7) program match/merge logic in file processing; (8) use a utility package for test data preparation. P.R. EDP 3415 and EDP 4425; or consent. (3-2) 4

EDP 4417 DATA PROCESSING APPLICATION I: Upon completion of this course the student should be able to: (1) design files and report formats, write programs, and prepare documentation according to specifications for a selected business application involving multi programs; (2) create and process files on tape and/or disk as required by the selected business application; (3) code and/or state programming techniques used in business applications such as data editing, sorting, merging, multilevel control breaks, table processing, calculation of days between dates, and various report formats; (4) code the required JCL for programs and utilities as need in implementing the selected business application. P.R. EDP 3415, EDP 4444 and EDP 4435; or consent. (3-2) 4

EDP 4418 DATA PROCESSING APPLICATIONS II: Upon completion of this course the student should be able to: (1) work on a programming team in programming a complete business application; (2) use source, object, and procedure libraries; (3) make decisions regarding file organization to use, number and scope of programs in a particular business application, and others in designing a computerized business system; (4) code or explain techniques or routines used in computerizing a business application such as check digit routines, variable length records, generation data sets, and file backup; (5) code all required JCL in the selected business application project for implementation; (6) use data base management concepts in file design; (7) to code and/or state programming procedures for an line processing with a data base using selected software such as CICS or IMS. P.R. EDP 4416, EDP 4435, and EDP 4444; or consent. (3-2) 4

EDP 4425 COMPUTER SYSTEMS I: Upon completion of this course the student should be able to: (1) use utility manuals to code the JCL and control statements for certain utilities; (2) code DD statements for sequential files; (3) code JCL for compilation and execution of COBOL and WATBOL programs; (4) create PDS, store and execute load modules; (5) list physical and storage characteristics of disk and tape; (6) calculate storage requirements for a file on disk or tape; (7) trace the job flow from input to output identifying software programs involved for a multiprogramming computer system for compilation and execution of programs; (8) diagram the program and data flow in a multiprogramming computer including channels and interrupts; (9) define an operating system and discuss IPL, SYSGEN and other selected terms; (10) code parameters of a Job and Execute card; (11) define selected communication terms dealing with lines connecting a terminal to a computer system. P.R. EDP 3414 or consent. (3-2) 4

EDP 4434 INTRODUCTION TO OPERATIONS RESEARCH: Upon completion of this course the student should be able to: (1) trace history, development, and use of O.R. techniques; (2) perform manipulative skills necessary for solution of linear programming (simplex), transportation model, CPM, selected simulation and queuing; (3) analyze problem definitions and apply appropriate model for solution; (4) prepare input data and interpret output for certain O.R. models using a computer. P.R. MAT 3505, MAT 2514, and EDP 3414; or consent. (3-2) 4

EDP 4435 COMPUTER SYSTEMS II: Upon completion of this course the student should be able to: (1) store, modify and use source modules on PDS in COBOL and WATBOL; (2) code DD statements for index sequential random files and define processing procedures and modes; (3) create and store procedures in a procedure library; (4) catalogue files; (5) establish and use generation group files; (6) code control statements for index sequential and random files; (7) use utility manuals for execution of selected utilities; (8) state purpose of and list some typical access method programs; (9) construct, modify, compile, and execute programs using terminal entry; (10) use message code listings to determine errors occurring in running sample jobs; (11) discuss programming problems when memory is limited; (12) code the control language for an operating system other than OS. P.R. EDP 4425 or consent. (3-2) 4

EDP 4437 COMPUTER LANGUAGE SURVEY: A study of any particular computer language or a study and comparison of various computer languages. The language(s) studied is based on current request. Upon completion of this course a student should be able to write basic programs in the language(s) studied. P.R. Consent. (3-2) 4

EDP 4444 RPG II PROGRAMMING: Upon completion of this course the student should be able to: (1) define various fields on the RPG II specification forms; (2) explain general logic of the execution cycle; (3) code, debug, and execute RPG II programs using indicators, multiple files, matching records, total levels, report headings, group indication, array processing, and exception output instructions; (4) correct compiling and logic errors. P.R. None. (3-2) 4

EDP 4445 ADVANCED RPG II PROGRAMMING: Upon completion of this course the student should be able to: (1) code table look-up routines; (2) update sequential, indexed sequential, and direct file organizations; (3) code array processing routines; (4) use packed decimal numeric representation; (5) code subroutines and use structured programming techniques; (6) code exception time output instructions; (7) use files on both tape and disk. P.R. EDP 4444 or consent. (3-2) 4

EDP 5390 INDIVIDUAL STUDY: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. P.R. None. (3-0) 3

EDP 5424 PROGRAMMING I — OPERATORS: Upon completion of this course the student should be able to: (1) write short COBOL programs that will generate business reports with headings and simple arithmetic operations performed on input data; (2) analyze listings of COBOL programs to determine such things as: (a) file, record, and field names, (b) input/output record layouts, (c) input/output devices; (3) list the steps and describe JCL involved in compilation and execution of a COBOL program as handled under an operating system. P.R. EDP 3300. (3-2) 4

EDP 5425 PROGRAMMING II — OPERATORS: Upon completion of this course the student should be able to: (1) explain the general purpose of the RPG II Specification forms; (2) code, debug, execute RPG II programs to perform basic calculations and generate reports involving control breaks, headings, and form control. P.R. EDP 3300. (3-2) 4

EDP 5524 GENERAL DATA PROCESSING APPLICATIONS: Upon completion of this course the student should be able to: (1) create a program library and store machine language executable programs in the library; (2) code the OS/JCL necessary to execute programs stored in a library and code the OS/JCL for files to be used by the program; (3) draw operational flow charts; (4) read a selected operator run sheet to determine devices, files, backup and rerun procedures, type forms, form distribution, transaction/master file storage, and special control records for the jobs; (5) prepare master file and transaction file records for a selected business data processing application; (6) prepare a run schedule, run the programs, and verify the results for a selected business data processing application; (7) use return codes in controlling job step execution; (8) define selected terms associated with business data processing applications. P.R. EDP 5514 and EDP 5424. (4-2) 5

EDP 5613 COMPUTER OPERATIONS I: Upon completion of this course the student should be able to: (1) define and use selected coding system for input data; (2) design input record layouts; (3) read and interpret computer output reports; (4) state and define principles of operations involving data entry, interpreting, sorting, collating, and forms handling; (5) list the characteristics and describe the hardware components of a computing system; (6) list the operator's duties in the operation of card read/punch, magnetic tape, disk, and console typewriter; (7) describe the hardware characteristics of a computer system with and without teleprocessing; (8) describe principles of operating a document reader; (9) describe computer output micro-filming and audio response equipment. C.R. EDP 3300. (5-2) 6

EDP 5614 COMPUTER OPERATIONS II: Upon completion of this course the student should be able to: (1) convert decimal, binary and hexadecimal numbers from one system to another; (2) define terms, explain concepts and state procedures for a system generation and IPL for two levels of control programs; (3) explain and demonstrate by diagrams the concept of a serial and multitasking computer system and describe the operational environment of each; (4) trace the job flow in a multitasking computer system environment; (5) define basic terms associated with the operation of a serial and multitasking operational environment; (6) list purpose and types of JCL cards for OS; (7) use utility manuals to code JCL and execute selected utilities on computer system used by CPCC; (8) define and use job commands on computer system used by CPCC; (9) distinguish between operational environment for batch processing and an line applications. P.R. EDP 3300 and EDP 5613. (5-2) 6

EDP 5615 COMPUTER OPERATIONS III: Upon completion of this course the student should be able to: (1) describe tape and disk labels, the labeling process, contents, and purpose; (2) state the purpose and content of the table of contents for disk; (3) discuss space management and other data management routines; (4) interpret messages associated with the operation of tape and disk; (5) interpret messages allocations on a run listing; (6) state the purpose and procedure for cataloging files; (7) define a procedure and describe purpose and use of a procedure library; (8) use selected utilities associated with tape/disk labels, disk table of contents, and cataloging/uncataloging files; (9) store and use procedure; (10) give a written description of machine accounting information; and (11) analyze return messages. P.R. EDP 5614. (5-2) 6

EDP 5616 COMPUTER OPERATIONS IV: Upon completion of this course the student should be able to: (1) write and define console commands with the abbreviations and subparameters; (2) define the different states of the CPU; (3) explain selected error and recovery procedures; (4) explain standard procedures for data security and backup; (5) define the principles and reasons for job scheduling; (6) read and understand basic operator manuals; (7) after an overview of the OS system — give the written principles of a control program; (8) describe the two types of channels and purpose of each; (9) correctly operate the terminal and/or computer currently in lab; (10) describe typical features of DOS or equivalent operating system; (11) code selected OCL statements and describe their purpose; (12) describe the operational environment for a minicomputer system; (13) discuss measures that can be taken for computer room security. P.R. EDP 5615. (5-2) 6

ELECTRICAL/ELECTRONICS

ELN 3100 ELECTRICAL-ELECTRONICS SEMINAR: Upon successful completion of this course the student should be able to: (1) show evidence of increased awareness of the role electronics plays in all aspects of our life; (2) show evidence of enhanced perception of the wide range of employment possibilities in the electronics field; (3) show evidence of exposure to topics of current interest in the electronics field; and (4) identify with a group who have similar career interests. P.R. None. (1-0) 1

ELN 3300 ELECTRICAL INSTALLATIONS AND SAFETY: This course is designed for the student whose primary orientation is NOT in a technical field. Through a series of varied learning experiences, the student will learn basic electrical concepts and how they apply to the safety of the building. Upon successful completion of this course the student should be able to distinguish between safe and unsafe selection and installations of electrical hardware and equipment in accordance with practices outlined in the National Electrical Code. (May not be used as a Specialty Elective.) P.R. None. (3-0) 3

ELN 3304 INSTRUMENTS AND MEASUREMENTS: Upon successful completion of this course the student should be able to: (1) use Ammeters, Voltmeters, and Ohmmeters; (2) calculate the values of shunts and multipliers to extend the range of meters; (3) manipulate the controls of signal generators and oscilloscopes to present a visual trace of an electrical signal for wave shape observation, frequency comparison, time frequency and voltage measurement, and phase angle determination; (4) measure power with the Wattmeter and; (5) make precise resistance measurements with a wheatstone bridge. P.R. ELN 351.4. (2-3) 3

ELN 3404 ELECTRONICS I — ACTIVE DEVICES: Upon completion of this course the student should be able to: (1) select and/or determine component values required to predict class A linear amplifier operation. Prediction will be in terms of all DC signal

voltages and currents for a triode tube and transistor circuit; (2) construct in the laboratory a triode tube and transistor class "A" linear amplifier circuit, measure all circuit voltages and currents using ammeters, voltmeters, audio generators and oscilloscope. P.R. ELN 3515. (3-3) 4

ELN 3405 ELECTRONICS II — ANALOG CIRCUITS: Upon successful completion of this course the student should be able to: (1) design proper DC bias for class "A" transistor amplifiers; (2) analyze small signal transistor amplifier circuits using hybrid equivalent circuits and parameters; (3) design proper DC bias for JFET and MOSFET amplifiers; (4) interpret key specifications for linear integrated circuits by the use of manufacturers specification sheets; (5) choose necessary discrete components required to "make functional" linear integrated circuits; (6) experimentally prove circuit design and service specifications in the laboratory. P.R. 3404. (3-3) 4

ELN 3414 INDUSTRIAL INSTRUMENTATION: Upon completion of this course the student should be able to: (1) specify appropriate input transducer for interface in an electronic control system to measure temperature, pressure, and light; (2) specify appropriate output control element requirements and/or device for recording, display, and process control; and (3) integrate input and output transducers with electronic signal conditioners and control systems. (Specialty Elective) P.R. ELN 3517, PHY 1405. (3-3) 4

ELN 3514 BASIC ELECTRICITY (DC): Upon completion of this course the student should be able to: (1) calculate voltage, current, resistance and power of series, parallel and combination DC resistive circuits using Ohm's law, Kirchhoff's law and the power law when given sufficient data; (2) measure these circuit parameters with suitable instruments and obtain data to prove the laws of electricity; (3) interpret passive circuit diagrams and symbols; (4) interconnect components shown on standard circuit diagrams to produce functioning circuits; (5) calculate and predict the instantaneous values of voltage, current, charge and energy stored in R-C and R-L time constant series, parallel and combination circuits and measure these parameters in the laboratory; and (6) calculate equivalent circuit values of series, parallel and combination connections of either inductance or capacitance and measure actual circuit parameters. C.R. MAT 3504. (3-6) 5

ELN 3515 BASIC ELECTRICITY (AC): Upon completion of this course the student should be able to: (1) select values of R, C, and L required to produce any desired voltage, current and impedance in AC circuits; (2) analyze R, C, and L series, parallel and combination circuits and draw vector diagrams representing voltage, current, impedance, resistance, reactance, and reciprocal quantities; (3) calculate L-C values required in resonant circuits and recognize this condition in functioning circuits; (4) correct power factor when required and calculate true power, apparent power and reactive power in AC circuits; and (5) select proper transformers in low frequency circuits for impedance matching, voltage step up or step down and test for proper operation in these circuits. P.R. ELN 3514, MAT 3504. (3-6) 5

ELN 3517 ELECTRONICS III: CIRCUITS: Upon completion of this course the student should be able to: (1) recognize, (2) reproduce, (3) specify component characteristics for, (4) assemble and, (5) test the following electronic circuits: rectifiers, passive filters, controlled power switching circuits, push-pull and other large signal amplifiers, oscillators, and power supply regulators. P.R. ELN 3405. (3-6) 5

ELN 4100 ELECTRICAL/ELECTRONICS SENIOR SEMINAR: Upon successful completion of this course the student should be able to: (1) identify and define the various career specializations and career roles available to the Electrical/Electronics Technician; (2) write an acceptable resume; (3) demonstrate satisfactorily skills required in a job interview; (4) identify specific local employment opportunities and evaluate each in view of the career goals; (5) specify career goals for a 10-year period. P.R. ELN 3517. C.R. COM 3306. (1-0) 1

ELN 4200 MICROPROCESSORS: TRS-80: Upon successful completion of this course the student should be able to: (1) identify the components and functions of a microprocessor based computer system, TRS-80; (2) discuss the system hardware and integrated circuitry; (3) discuss the software options that are available for small business and home users of computers; (4) define future applications for typical computer systems. (May be used as a Specialty Elective) P.R. None. (2-0) 2

ELN 4304 RADIOTELEPHONE OPERATION: Upon completion of this course the student should be able to: (1) pass the Federal Communication Commission examination for second class radiotelephone operators license; (2) be ready for continued self-study to prepare for the first class examination. (Specialty Elective) P.R. ELN 4414. (3-0) 3

ELN 4307 SYSTEMS CORRECTION PROCEDURES: Upon completion of this course a student should be able to: (1) diagnose defects in Electrical/Electronics circuits and systems given appropriate diagrams and operational specifications; (2) locate defective components with the effective application of a VOM, EVM, A-C ammeter, wattmeter, oscilloscope, audio generator, R.F. generator or frequency meter; (3) select appropriate replacement component as required to restore circuit or system to acceptable performance; and (4) perform alignment and or adjustments as required by equipment performance specifications. P.R. ELN 3517. (1-6) 3

ELN 4310 INTRODUCTION TO MICROPROCESSORS: Upon completion of this course the student should be able to: (1) identify a microprocessor system and its associated integrated circuitry; (2) relate to various systems presently available and how they are being used in industrial control and small system computers; (3) interpret machine instructions, control signals and data flow through a typical system; (4) write programs in both machine and assembly language for a M6800 system; (5) execute programs using individual microprocessors in a laboratory setting. P.R. ELN 4427. (Elective in Electrical Program) (2-3) 3

ELN 4326 ELECTRICAL-ELECTRONICS PROJECT: Upon successful completion of this course the student should from a schematic diagram be able to: (1) layout and produce a printed circuit board; (2) install components; (3) test circuit; (4) evaluate performance and provide a detailed engineering report on the project. P.R. ELN 3517, DFT 3400. C.R. COM 3306. (2-3) 3

ELN 4400 PRACTICAL ELECTRICITY: Through a series of varied learning experiences, the student will learn basic AC and DC electrical concepts of voltage, current and power and how they apply to practical applications. Upon completion of this course the student should be able to: (1) recognize and choose safe electrical devices; (2) apply the National Electrical Code to an electrical installation; (3) determine the proper size fuse or circuit breaker to protect a circuit; (4) differentiate between an electrical open, short, or ground; (5) select the proper wire sizes for circuits; (6) make proper electrical connections; and (7) select proper components and assemble the circuit for appliances including lighting and motors. (May not be used to satisfy Specialty Elective in E/E curriculum.) C.R. MAT 3504. (3-3) 4

ELN 4401 PLANNING ELECTRICAL INSTALLATIONS: Upon completion of this course the student should be able to: (1) have an understanding of and an appreciation for the value of the Underwriters Laboratories and the National Electrical Code; (2) use the N.E.C. to determine safe standards for planning electrical installations; (3) calculate heat loss and gain for electrical heating and cooling; (4) plan and calculate lighting specifications for an installation. (Required in Electrical Program; Specialty Elective in Electronics Program) P.R. ELN 3515. (3-3) 4

ELN 4404 MEDICAL ELECTRONICS: Upon completion of this course the student should be able to: (1) predict equipment response when given appropriate bioelectric equivalent signal; (2) verify proper connection of a patient with electrodes and

transducer interface to medical equipment; (3) measure with conventional test devices the leakage currents associated with the safety of medical equipment; (4) diagram the human cardiovascular circulation system; and (5) select the appropriate electrode or transducer as required to obtain a given biomedical parameter. (Specialty Elective) P.R. ELN 3517. (3-3) 4

ELN 4407 **ELECTRONICS IV: OP-AMPS:** Upon successful completion of this course the student should be able to utilize operational amplifier specification data, for the purpose of: (1) selecting and/or determining necessary discrete components and power to apply common integrated circuit operational amplifiers; (2) specific circuit applications will include uses for oscillators, comparators, inverting amps, noninverting amps, voltage regulators, zero cross detectors, waveform generators. P.R. ELN 3517. (Required in Electronics program, Specialty Elective in Electrical program.) (3-3) 4

ELN 4414 **RECEIVERS AND TRANSMITTERS:** Upon completion of this course the student should be able to: (1) apply the appropriate test and measuring equipment to effect measurements on transmitters that will result in proof of performance as required by the FCC; and (2) apply the appropriate test and measuring equipment to determine and/or make LC resonance adjustments to receivers per performance specifications. (Specialty Elective.) P.R. ELN 3517. (3-3) 4

ELN 4415 **INDUSTRIAL CONTROL CIRCUITS:** Upon successful completion of this course, the student should be able to: (1) determine, select, and evaluate overload and short circuit protective devices for optimum load protection; (2) design, select, compare performance and evaluate various AC and DC motor control circuits for starting, stopping, plugging and braking; (3) design and evaluate static control circuits utilizing NEMA logic and the programmable logic controller; (4) experimentally prove and evaluate control circuits in the laboratory. (Required in Electrical Program, elective in Electronics Program) P.R. ELN 4525. (3-3) 4

ELN 4427 **DIGITAL CIRCUITS I:** Upon completion of this course the student should be able to: (1) identify the improvements and advantages digital circuitry has in electronic equipment and devices; (2) read logic diagrams and use manufacturer's specifications to determine operating characteristics and functions of digital circuits; (3) draw a digital schematic circuit using proper drafting techniques; (4) reduce digital expressions by using laws and theorems of Boolean algebra; (5) implement circuitry using AND, OR, NAND, NOR and inverter gates; (6) utilize R-S latch and J-K flip-flops as memory devices; (7) construct and verify the operation of digital circuitry in a laboratory setting. C.R. ELN 3405. (3-3) 4

ELN 4434 **DIGITAL CIRCUITS II:** Upon completion of this course the student should be able to: (1) identify the J-K flip-flop as the building block for the design of counters, storage and shift registers; (2) utilize decoder circuitry to drive LED's to displaying readouts; (3) use both astable and monostable multivibrators for timing and control of digital circuits; (4) design digital to analog and analog to digital converters to interface electronic circuitry; (5) implement addressing and movement of data in RAM and ROM; (6) design, draw the above circuitry and assemble it using conventional breadboarding and wirewrapping techniques in a laboratory setting. (Required in Electronics Program; Specialty Elective in Electrical Program.) P.R. ELN 4427. (3-3) 4

ELN 4444 **NETWORK ANALYSIS:** Upon completion of this course the student should be able to: (1) determine series and parallel equivalent circuits using Kirchhoff's law; (2) simplify electrical circuits to Thevenin's or Norton's equivalent; (3) calculate electrical properties of network circuits using superposition, mesh, and nodal analysis; (4) transform delta equivalent circuits to wye and wye to delta; and (5) experimentally prove the above in a laboratory. P.R. ELN 3515, MAT 3505. (3-3) 4

ELN 4505 **POWER ELECTRONICS:** Upon successful completion of this course, the student should be able to perform basic circuit design, select components, breadboard in the lab, and evaluate operational performance of the following industrial electronic circuits: (1) thyristor control; (2) phase shift control; (3) electronic motor control; (4) switching transistor power control; (7) variable frequency power control. (Required in Electrical Program; elective in Electronics Program) P.R. ELN 4525, ELN 3517. (3-6) 5

ELN 4525 **ELECTRICAL MACHINES I:** Upon successful completion of this course the student should be able to: (1) specify the factors required to induce a voltage and develop force in simple generators and motors; (2) show visually the physical relation and polarities of the above factors; (3) calculate induced voltage in generators; (4) calculate developed force and torque in motors; (5) calculate the electrical quantities of current, voltage, power, power factor, phase angle, voltage regulation, efficiency and the physical quantities of torque, speed, and horsepower for: (a) DC generators; (b) DC motors; (c) transformers; (d) alternators; (e) three-phase motors; (f) single-phase motors; and (6) select and wire motors, generators, transformers, meters, and loads in the laboratory as required to obtain operational data and evaluate performance of the above. P.R. PHY 1404, ELN 3515. (3-6) 5

ELN 4526 **ELECTRICAL MACHINES II:** Upon successful completion of this course the student should be able to: (1) analyze and evaluate the electrical and mechanical characteristics of: (a) synchronous motors, (b) alternators in parallel, (c) three-phase transformers, (d) special uses of synchronous and induction machines; (2) compute motor and generator efficiencies; (3) conduct laboratory experimentation as required to obtain operational data and evaluate performance of the above devices and circuits. (Required in Electrical Program; Elective in Electronics program.) P.R. ELN 4525. (3-6) 5

ELN 4547 **MICROPROCESSORS I:** Upon successful completion of this course the student should be able to: (1) identify a microprocessor system as a digital controller and relate its present and future applications in industrial control and monitoring; (2) define the integrated circuitry associated with a microprocessor, its specifications and characteristics; (3) discuss the use of RAM, ROM, PROM, and peripheral devices interfaced with a microprocessor; (4) interpret machine instructions and trace their execution through a typical system; (5) write programs using both machine and assembly language for M6800 system; (6) execute programs in a laboratory setting. (Specialty Elective.) P.R. ELN 4434, EDP 3405 or EDP 1404. (3-6) 5

ELN 4557 **MICROPROCESSORS II:** (A continuation of ELN 4547) Upon successful completion of this course the student should be able to: (1) design a microprocessor system to control a typical industrial application; (2) write the necessary software with the aid of an editor and assembler to interface with the hardware; (3) assemble, test, debug and document the system in a laboratory setting. (Specialty Elective) P.R. ELN 4547. (3-6) 5

ELN 4__94 **INDEPENDENT STUDY:** This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. P.R. (as appropriate) (1-5 Credits)

ENGLISH

ENG 9500 **EFFECTIVE SENTENCE WRITING:** An individualized, self-paced course designed to meet the needs of students who do not have the necessary English grammar background to express an interest in sentence writing. When students have completed ENG 9500, they should be able to write clear, concise, and correctly punctuated sentences. (Placement: Cooperative English Score) (0-10) 5

ENG 9505 SPELLING AND VOCABULARY: An individualized self-paced course designed to meet the needs of students who are lacking in the study of sound patterns in the English language and exploration of words. At the completion of ENG 9505 the student should be able to produce English speech sounds, to pronounce words, and to spell them correctly. (5-0) 5

ENG 9510 FUNDAMENTALS OF WRITING: An individualized, self-paced course designed to meet the needs of students who are preparing to enter college transfer or technical communication courses; however, any student may enroll in the course. Upon successful completion of ENG 9510, students should be able to demonstrate that they have developed the necessary skills by writing and proofreading paragraphs and themes. (Prerequisite: ENG 9500 or Cooperative English Score) (5-0) 5

FINANCE

FIN 3314 BUSINESS MATHEMATICS I: Upon completion of this course, the student should be able to apply basic computational skills in business applications involving whole numbers, fractions, and decimals. Students should also be able to calculate base, rate, and percentage and to round whole numbers and decimals to any stated place. Other areas of study include the metric system, banking, trade and cash discounts, markup, markdown, payrolls and interest. (3-0) 3

FIN 3315 BUSINESS MATHEMATIC II: This is a continuing study of business mathematics. Upon completion of this course, students should be able to calculate interest rates on installment loans, prepare a repayment schedule for real estate loans, figure taxes and insurance rates for consumers, calculate depreciation and prepare and interpret financial statements and various graphs. Other areas of study include types of investments, present value, annuities, sinking funds and basic business statistics. P.R. FIN 3314 (3-0) 3

FIN 3330 REAL ESTATE ARITHMETIC: Upon completion of this course, the student will have demonstrated competency in applying basic arithmetical processes to solving problems in real estate including the following: geometric diagrams, commissions, profits and losses, appreciation and depreciation, interest, financial packages, taxes, insurance, capitalization and investments. (3-0) 3

FIN 4317 FINANCIAL STATEMENT ANALYSIS: This course is a study of the fundamentals of the major financial statements used in accounting with particular emphasis on the balance sheet and income statement. The student will be able to demonstrate satisfactory competency in the application of various techniques of analysis to determine financial position and to interpret operating results. (3-0) 3

FIN 4334 BUSINESS FINANCE I: Upon completion of this course, the student will have demonstrated an understanding of a variety of topics related to business finance. Specific areas of study include forms of business organization, ratio analysis, profit planning, financial forecasting, budgeting and working capital management. P.R. ACC 1604. (3-0) 3

FIN 4335 BUSINESS FINANCE II: Upon completion of this continued study of the techniques of business finance, the student should be able to apply various methods of evaluating investments, determine the cost of different types of capital and explain the financing of corporations and other business entities. Specific topics include present value concepts, capital budgeting techniques, leverage, long-term financing, business expansion and financial failure. P.R. FIN 4334 (3-0) 3

FIN 4336 FINANCIAL MANAGEMENT: This course covers finance functions relating to buying, operating and selling a business. Emphasis is placed on problem solving and the development of analytical skills rather than on theory. The case method is used to develop and reinforce problem-solving skills. The students will demonstrate their ability by solving case problems related to these functions; defining and explaining valuation, financial analysis, and capital budgeting; and applying a variety of techniques for managing working capital, inventories and other business assets. P.R. FIN 4335. (3-0) 3

FIN 4350 PERSONAL MONEY AND FINANCIAL MANAGEMENT I: This is a consumer oriented course designed to enable the student to become a better consumer. When completed, the student will have demonstrated knowledge of consumer laws, protection and remedies; family budgeting and financial planning; housing needs; transportation needs; and uses of credit and its related problems. Awareness on the part of the student to consumer rights and responsibilities is emphasized throughout the course. (3-0) 3

FIN 4390 PERSONAL MONEY AND FINANCIAL MANAGEMENT II: A continued study of FIN 4350, this course is designed to enable the student to become a better consumer. Long-range planning is the major emphasis. Upon completion of the course, the student should be able to make a long-range financial plan for the family; determine insurance needs; understand retirement income planning; understand estates, wills, trusts, and their uses; and determine the need for professional help from lawyers, accountants, bankers and others in their planning. (3-0) 3

FIRE SCIENCE

FIP 3301 FIRE PREVENTION PROGRAMS AND PUBLIC RELATIONS: Upon completion of this course the student should be able to: (1) list and discuss the principles and applications of fire prevention related to the community and industrial plants; (2) discuss the development and maintenance of fire prevention programs, educational programs and inspectional programs; and (3) apply related disciplines to fire prevention problems. P.R. None. (3-0) 3

FIP 3303 FIRE PROTECTION I: Upon completion of this course the student should be able to: (1) state the duties and obligations of fire service, fire protection and safety personnel; (2) identify general fire hazards and causes, fire protection principles; (3) demonstrate skill in applying these principles in the elimination or reduction of the fire hazards and causes; (4) compare current trends and federal legislation in fire protection to early fire protection developments. P.R. None. (3-0) 3

FIP 3304 FIRE PROTECTION II: Upon completion of this course the student should be able to: (1) discuss fire department organization and personnel management in relation to other city departments; (2) evaluate public fire protection needs, financial factors, records and reporting systems. P.R. None. (3-0) 3

FIP 3400 FIRE PROTECTIVE SYSTEMS: Upon completion of this course the student should be able to: (1) list and describe the various types of portable fire extinguishing systems, their operation, application, installation and maintenance; (2) demonstrate skill in portable extinguishing operations; (3) identify and describe the various types of sprinkler and standpipe systems; (4) demonstrate skill in operating sprinkler valves and standpipe systems. P.R. None (Industrial Safety, Security & Health Mang. Curr. Only) (3-2) 4

FIP 3404 CHEMISTRY OF FLAMMABLE MATERIALS: Upon completion of this course the student should be able to: (1) list and describe theories of combustion and extinguishment; (2) analyze flammable materials and describe the nature of extinguishing agents; (3) list the properties of matter affecting fire behavior; (4) discuss the use, storage, and disposal of flammable solids, liquids, gases and dust, using the laws and principles of chemistry and physics as a basis for discussion. P.R. CHM 3600. (3-2) 4

FIP 3406 ARSON DETECTION AND INVESTIGATION: Upon completion of this course the student should be able to: (1) identify

tify fire causes and accidental and incendiary nature; (2) identify points of origin of fire; (3) identify and preserve physical evidence of fire; (4) construct and execute course cases; and (5) identify motives for and methods of fire fighting. P.R. None. (3-2) 4

FIP 4304 FIRE PROTECTION LAW: Upon completion of this course the student should be able to: (1) list and discuss pertinent laws and ordinances and codes of fire protection and the responsibilities and powers of the individual or organizations concerning enforcement; (2) discuss liability of fire protection personnel when making inspections, recommendations, fighting fires and other tasks; (3) discuss specific court cases including torts, terms and contracts. P.R. None. (3-0) 3

FIP 4314 METHODS OF TEACHING: Upon completion of this course the student should be able to: (1) discuss purposes of fire service drills and training programs; (2) discuss the development and operation of Charlotte-Mecklenburg training programs; (3) list and describe facilities and necessary equipment for modern training; and (4) discuss the selection and training of instructional staff and appropriate methods of instruction. P.R. SPH 1300. (3-0) 3

FIP 4403 HYDRAULICS FOR FIRE PROTECTION: Upon completion of this course the student should be able to: (1) describe the flow of fluids through fire hoses, nozzles, appliances, pumps and other devices; (2) describe the designs, uses and testing of nozzles, appliances and pumps; and (3) accurately measure fluid flow using appropriate methods of determining quantities of water available through fire systems. P.R. MAT 3500. (3-2) 4

FIP 4404 WATER DISTRIBUTION SYSTEMS: Upon completion of this course, the student should be able to: (1) identify and describe sources of water, water storage, measurement of fluid flow and methods of determining quantities of water available from a distribution system. P.R. FIP 4403. (3-2) 4

FIP 4405 SPRINKLER AND STANDPIPE SYSTEMS: Upon completion of this course, the student should be able to: (1) identify and describe the various types of sprinkler and standpipe systems; (2) list and discuss system devices and their operations to include advantage of sprinkler system, codes governing installation, water supply requirements, testing, inspection and maintenance. P.R. None. (3-2) 4

FIP 4414 INSPECTION PRINCIPLES AND BUILDING CODES: Upon completion of this course, the student should be able to: (1) list fundamentals of fire inspection including standards, techniques of evaluation of hazards by degrees and practical recommendations; (2) inspect buildings and write reports on each building, to include maps and sketches of each building, location of hazards, and recommendations for safe practices and improvements. P.R. None. (3-2) 4

FIP 4423 PORTABLE AND FIXED EXTINGUISHING SYSTEMS: Upon completion of this course, the student should be able to: (1) list and describe the hazards encountered in chemical and petroleum industries; (2) list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; (3) list and describe common uses of radioactive material, their transportation and storage; and (4) demonstrate skills of chemical and radioactive inspections. P.R. FIP 3404. (3-2) 4

FIP 4424 AUTOMATIC ALARM SYSTEMS: Upon completion of this course, the student should be able to: (1) list and describe the types of standard and special fire alarm and fire detection systems to include discussion of their operations, installation requirements, testing, inspections and maintenance. P.R. None. (3-2) 4

FIP 4434 CHEMICAL AND RADIATION HAZARDS: Upon completion of this course the student should be able to: (1) list and describe the hazards encountered in chemical and petroleum industries; (2) list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; (3) list and describe common uses of radioactive material, their transportation and storage; and (4) demonstrate skills of chemical and radioactive inspections. P.R. FIP 3404. (3-2) 4

FIP 4444 FIRE FIGHTING STRATEGY: Upon completion of this course the student should be able to: (1) list and describe tactics and strategy in extinguishing fires; (2) list and describe pre-fire plans, fire flow calculations, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires and fuel analysis; (3) demonstrate appropriate response to simulated crises. P.R. None. (3-2) 4

FIP 4454 BUILDING CONSTRUCTION AND MATERIAL RATING: Upon completion of this course the student should be able to: (1) list and discuss building codes applicable to fire prevention; (2) list and describe the principles and practices used in various types of building construction; and (3) discuss fire resistant tests and rating of materials. P.R. None. (3-2) 4

FRENCH

FRE 1300 TRAVEL FRENCH: Oral approach to comprehending and communicating in French. Upon successful completion of FRE 1300, the student should be able to use basic communication in terminals, shops, restaurants, hotels, and other places. Tapes, filmstrips, movies, and extensive conversation in the classroom. (Elective credit only.) (Does not satisfy humanities requirement.) (3-1) 3

FRE 1600 ELEMENTARY FRENCH I: Basic elements of French in conversation, reading, and writing for beginning students. Filmstrips and tapes used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

FRE 1601 ELEMENTARY FRENCH II: Continuation of FRE 1600 in basic elements of conversation, reading, and writing. P.R. FRE 1600 or consent. (Does not satisfy humanities requirement.) (5-2) 6

FRE 2320 SPECIAL TOPICS: An advanced course in which the students and the instructor select topics for independent study. Class meetings for oral reports and discussion. P.R. FRE 2600 or consent. (3-0) 3

FRE 2600 INTERMEDIATE FRENCH I: Intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. P.R. FRE 1601 or two high school units or consent. (5-2) 6

FRE 2601 INTERMEDIATE FRENCH II: Readings in French with emphasis on people and events that have determined the destiny of France from the beginnings to the present. Selections from French literature include poetry, drama, and fiction, supplemented with filmstrips, slides, and movies. P.R. FRE 2600 or consent. (FRE 2600 and 2601 combined will satisfy humanities requirement.) (5-2) 6

FOOD SERVICE OCCUPATION

FSO 3300 INTRODUCTION TO FOOD SERVICE TECHNOLOGY: Upon successful completion of the course, the student should be able to cite the sanitation rules of Charlotte and the state code of North Carolina; distinguish between a chain restaurant, corporation hotel, country club operation, cafeteria and coffee shop recognizing the proper chain of command; and explain the basic function of each department existing in an entire food service operation. (3-0) 3

FSO 3305 TABLE COOKERY: Upon successful completion of the course the student should have the necessary knowledge and skill to become a competent head waiter, maitre d', or wine steward. The student should also be able to prepare the various dishes that are appropriate for table cookery, including desserts. Practical knowledge will be acquired in salad making and the correct temperatures wines are served. P.R. FSO 3804. (2-3) 3

FSO 3504 FOOD PREPARATION I: An introductory course in food preparation and dining room service. Upon successful completion of the course the student should be able to demonstrate skills essential to becoming a cook. In the lab, the student will participate in activities which are of value in understanding present-day food service establishments and dining room technology. The student will also gain meaningful insight in opportunities for individual advancement in the industry.

(2-9) 5

FSO 3505 FOOD PREPARATION II: Upon successful completion of the course the student should have acquired advanced skills necessary to be a competent cook. The student will become familiar with the finer arts of the methods and preparation of American and European cookery, acquiring the skills necessary to prepare and cook different soups, egg, and cheese dishes. In addition to learning weights and measures used in cooking, the student will be able to describe the difference between American and European dining room service. P.R. FSO 3804.

(2-9) 5

FSO 3506 FOOD PREPARATION III: Upon successful completion of the course the student should be able to identify and prepare soups, consommés, creams, purees, chowders, potages, royals and the techniques used in preparing garnishes. The student will gain an understanding of the value of showmanship needed in presenting fancy foods as well as learning the value of menu technology. P.R. FSO 3505.

(2-9) 5

FSO 4304 FOOD AND LABOR COST CONTROLS: A course concerning food costs and skills necessary for setting food cost objectives. The value of establishing standard portions will be stressed. Purchasing methods, the importance of a weekly inventory, the necessity of food issuing forms and the value of comparative buying will also be emphasized. Upon successful completion of the course the student should be able to direct personnel to the fullest advantage. P.R. ACC 3434.

(3-0) 3

FSO 4407 BAKING I: An introductory course in the principles of baking and the skills necessary to make breads, rolls, cakes, etc. Upon successful completion of the course the student should be able to demonstrate the use of correct measurements and the proper use of various baking tools and equipment related to baking.

(2-6) 4

FSO 4408 BAKING II: An advanced course in baking stressing mixing methods, defining the function of each ingredient. Upon successful completion of the course the student should be able to demonstrate the ability to handle and roll basic dough and will be able to recognize the differences in the pastry unit, baking unit and ice cream unit.

(2-6) 4

FSO 4409 BAKING III: Upon successful completion of the course the student should be able to decorate cakes; identify ingredients used in French and Danish pastries and various icings; and create flaming desserts.

(2-6) 4

FSO 4414* GARDE MANGER I: An introductory course in meat cutting and salad preparation. Upon successful completion of the course the student should be able to demonstrate the showmanship necessary in creating fancy meat platters and the skills required in ice carving and tallow sculpturing.

(2-6) 4

FSO 4415 GARDE MANGER II: Upon successful completion of the course the student should be able to apply the techniques of processing and dressing meats, including poultry and seafood. The student should also be able to construct various sandwiches; identify ingredients used in numerous salad dressings; and recognize color, flavor, and texture combinations used in aspics and glazes for show pieces.

(2-6) 4

FSO 4416 GARDE MANAGER III: Upon successful completion of the course the student should be able to demonstrate skilled techniques of boning beef, veal, lamb and pork and should be able to understand the grading of meat and the rudiments used in purchasing. The student should be able to prepare fancy salads, special sandwiches, and a classic chaud froid show piece. In addition, the student should be able to identify various nutritive values associated with fresh fruits and vegetables and how to maintain these nutrients during preparation and cooking. The student should also be able to differentiate the responsibilities of the Garde Manger Section.

(2-6) 4

FSO 4506 FOOD PREPARATION IV: Upon successful completion of the course the student should be able to sauté, fry, roast, broil, stew and broil meats in addition to demonstrating how to carve different cuts of meats. The student should also be able to purchase provisions and groceries; to select proper wines; and to set up special banquets and parties.

(2-9) 5

FSO 4507 FOOD PREPARATION V: An advanced course in food service technology in composing a menu with the correct combination and price structure. Upon successful completion of the course the student should be able to discuss the importance of setting up stations and dining room service, demonstrate how to work in the hot stations and the garde manger section.

(2-9) 5

FSO 4508 WORK EXPERIENCE SEMINAR: A course enabling the student to acquire work experience under the guidance of a chef in the community, assisting in all phases of the food service operation. The executive chef of the establishment to whom the student is assigned will evaluate the individual progress.

(2-9) 5

GEOLOGY

GEL 1604 PHYSICAL GEOLOGY: An introductory course in geology with emphasis on the presence of geology in the student's surroundings. Upon satisfactory completion of this course the student should be able to demonstrate knowledge in the following areas: common minerals & rocks, development of major landforms & the economical use of geological resources.

(5-2) 6

GEL 2605 HISTORICAL GEOLOGY: An introductory course in the historical sequence of the earth's history. Upon satisfactory completion of this course the student should be able to demonstrate knowledge in the areas: recognition of major fossils and associated rock strata, appreciation of the age of many geological formations, and how historical geology aids in finding natural resources.

(5-2) 6

GENERAL STUDIES

GEN 1141 INTRODUCTION TO NATURE PHOTOGRAPHY: An introduction to the basic principles of nature photography with emphasis on the various types of cameras, lenses, and films indicating what the limitations of each are. Also an introduction to the techniques of photography from blinds and tips on how to photograph anything from wild flowers to birds.

(0-22) 1

GEN 1142 FIELD BIOLOGY/ECOLOGY OF NORTH CAROLINA: This course consists of three 7½ hour field sessions. One each to Coastal region/seashore; Piedmont region; and mountains. Each trip provides in the field instruction about the area visited. Highlights of the ecology, geology, flora and fauna of each area are observed and discussed. The course uses three different instructors, each with experience and expertise in the specific area. Students will provide their own transportation to and from field locations.

(0-22) 1

GEN 1143 EDIBLE WILD PLANTS: This course consists of 5 hours of lecture and 2 hours of lab (field trips). The class sessions utilize slide demonstrations to acquaint students with edible wild plants of the area. Information on the preparation of these plants will be provided. The field sessions will involve identification of edible wild plants. Students will provide their own transportation to and from field locations.

(5-12) 1

GEN 1144 **ECOLOGY BY CANOE:** A course of general interest designed to meet the needs of the weekend college students. The course is made up of 3 all day (7½ hrs.) field trips by canoe. The students will learn about the flora and fauna of three different geographical regions and streams of North Carolina ie. Swamp, Piedmont, and Mountain. Little or no canoeing experience is necessary — flatwater streams are selected. (0-22) 1

GEN 1230 **WRITING TO SELL:** This course focuses upon the technique of researching, writing and selling nonfiction prose. "Slanting" or adapting articles to specific magazines, newspapers, and other such publications is emphasized. The object of the course is to prepare written materials for marketing. (2-0) 2

GEN 1512 **DIVORCE:** A course designed for the formerly married and those in the process of terminating marriage. Class sessions will utilize guest speakers drawn from the college and the community. Through paper and pencil testing the student will demonstrate more positive attitudes toward divorce, a greater knowledge of the state and national trends of divorce, and the impact of divorce on children. Students will demonstrate a greater awareness of the local agencies and resources which can assist with the problems associated with divorce, and the consumer rights and credit rights of a formerly married person. Each student will develop an occupational and/or career advancement plan for future use. (5-0) 5

GEN 1514 **WORLD WAR II:** Upon successful completion of this course, the student will be able to explain the conditions in Europe and Asia prior to World War II, explain the strategy of the United States during World War II, and explain the roles of Britain, Russia, and the United States in planning and preparing for the past war era. (5-0) 5

GEN 2510 **THE AMERICAN CIVIL WAR:** Upon completion of this course the student will be able to explain why the Civil War was a turning point in our nation's history, describe why the tragic years from 1861-1865 form an important episode in our national history, explain why, before 1860, the southern economy was bound to the institution of slavery, describe how the divergent economic structures of the North and South would cause conflict, explain the frame of reference on the North and South in terms of ideology. (5-0) 5

GEOGRAPHY

GEO 1614 **INTRODUCTION TO PHYSICAL GEOGRAPHY:** A study of the basic physical elements of geography aimed at understanding the physical environment. Upon successful completion of this course, the student will be able to demonstrate a basic understanding of the earth's geographic grid system, earth-sun relations and their phenomena, basic concepts of cartography, meteorology, hydrology, and geomorphology. (5-2) 6

GERMAN

GER 1600 **ELEMENTARY GERMAN I:** Basic elements of German in conversation, reading and writing for beginning students, with laboratory tapes to reinforce classroom instruction. (Does not satisfy humanities requirement.) (5-2) 6

GER 1601 **ELEMENTARY GERMAN II:** Continuation of GER 1600 in basic elements of conversation, reading and writing. P.R. GER 1600 or consent. (Does not satisfy humanities requirement.) (5-2) 6

GER 2600 **INTERMEDIATE GERMAN I:** Intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. P.R. GER 1601 or two high school units or consent. (5-2) 6

GER 2601 **INTERMEDIATE GERMAN II:** Continuation of GER 2600. Reading of selections from German literature combined with oral and written work in class. P.R. GER 2600 or consent. (GER 2600 and 2601 combined will satisfy humanities requirements.) (5-2) 6

HEALTH EDUCATION

HED 1100 **HEALTH EDUCATION I:** A study of selected health areas in personal health. The student will be presented information on personal health areas. At the end of the course the student should be able to implement basic health measures for use in maintaining personal health and should be able to utilize health education in improving daily living. (1-0) 1

HED 1101 **HEALTH EDUCATION II:** Continuation of HED 1100. Special emphasis in community health. Upon completion of this course the student will be familiar with community health resources and should be able to identify the role an individual can play in improving community health. (1-0) 1

HED 1102 **HEALTH EDUCATION III:** Continuation of HED 1101. Specific emphasis on family health. Upon successful completion of this course the student will be able to describe the factors contributing to family health, relate various health problems encountered by different age groups in a family and be able to list community resources for family health. (1-0) 1

HED 1111 **SPECIAL HEALTH PROBLEMS:** Selected health problems are chosen for study. The student is presented a subject area and should be able to identify the problem areas and will have the opportunity to suggest possible solutions to these problems. (1-0) 1

HED 1200 **PUBLIC HEALTH AND SANITATION:** The student will become acquainted with general information about the various aspects of public health. The student will become familiar with the health concerns of adults and children and should be able to identify various public health problems and environmental health problems upon successful completion of the course. (2-0) 2

HED 1201 **SPECIAL HEALTH PROBLEMS:** Selected health problems are chosen for study. The student is presented a subject area and should be able to identify the problem areas and will have the opportunity to suggest possible solutions to these problems. (2-0) 2

HED 1202 **DRUGS AND RELATED ISSUES:** A study of drugs and drug use in contemporary American society. Upon completion of the course the student should be able to identify decision making and communication skills as they relate to drug use. A discussion of alternatives to drug use will be included. (2-0) 2

HED 1203 **CARDIOPULMONARY RESUSCITATION (CPR):** The student is instructed in Emergency First Aid and CPR procedures that should enable the student to give care to the injured and/or perform emergency procedures when cardiac arrest occurs. The CPR Certificate will be awarded the student upon successful completion of course. (2-0) 2

HED 1204 **FIRST AID I:** The purpose of First Aid Training is to acquire knowledge and skill to enable the student to provide emergency care for the sick and injured until medical help can be obtained. The Red Cross Standard First Aid and Personal Safety certificate will be awarded the student upon successful completion of the course. (1-2) 2

HED 1205 **FIRST AID II:** A course to prepare students as instructors in standard first aid. The student will write lesson plans and present these in class situations. Successful completion of this course will qualify the student as a Red Cross Instructor of Standard First Aid and Personal Safety and a certificate will be awarded. P.R. HED 1204. (1-2) 2

- HED 1206 ADVANCED FIRST AID AND EMERGENCY CARE:** Upon successful completion of this course the student will be able to perform advanced techniques of first aid skills in caring for the sick and injured. The Red Cross Advanced First Aid Certificate will be awarded at completion of course. P.R. HED 1204. (1-2) 2
- HED 1207 CPR INSTRUCTOR:** Upon completion of this course the student will be able to prepare lesson plans for teaching cardiopulmonary resuscitation and present these plans in class. The student will be able to administer tests of basic CPR skills. The CPR Instructors certificate will be awarded at the end of the course. P.R. HED 1203. (2-0) 2
- HED 1301 SPECIAL HEALTH PROBLEMS:** Selected health problems are chosen for study. The student is presented a subject area and should be able to identify the problem areas and will have the opportunity to suggest possible solutions to these problems. (3-0) 3
- HED 1310 YOUR HEALTH — YOUR CHOICE:** A course consisting of thirty (30) video modules. Upon successful completion of this course students will be able to identify ways of influencing their own health, both physical and mental. (2-2) 3

HISTORY

- HIS 1500 WORLD CIVILIZATION I:** This course involves a study of development of civilization from the pre-historic period to the seventeenth century. Upon successfully completing this course the student should be able to analyze significant events and identify patterns in early political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, and Africa, making relationships between past events and relating these to contemporary problems. (5-0) 5
- HIS 1501 WORLD CIVILIZATION II:** This course involves a study of development of civilization from the seventeenth century to the present. Upon successfully completing this course the student should be able to analyze significant events and identify patterns in recent political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, Africa, and the Americas, thus giving context for understanding the present world order. (5-0) 5
- HIS 1502 AMERICAN HISTORY I:** Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from the Colonial era to 1877; and to evaluate major historical interpretations of this period of American history. (5-0) 5
- HIS 1503 AMERICAN HISTORY II:** Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in American history from 1877 to the present; and to evaluate major historical interpretations of this period of American history. (5-0) 5
- HIS 1510 THE AMERICAN CIVIL WAR:** Upon completion of this course, the student will be able to explain why the Civil War was a turning point in our nation's history, describe why the tragic years from 1861-1865 form an important episode in our national history, explain why, before 1860, the southern economy was bound to the institution of slavery, describe how the divergent economic structures of the North and South would cause conflict, and explain the frame of reference of the North and South in terms of ideology. (5-0) 5
- HIS 1520 BLACK HISTORY I:** Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of the Black American from ca. 3000 B.C. to 1865; to analyze and evaluate the philosophies of major Black American leaders from the era of Colonial America to the era of the Civil War; and to evaluate major historical interpretations of Black American history. (5-0) 5
- HIS 1521 BLACK HISTORY II:** Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of Black Americans from 1865 to the present; to analyze and evaluate the philosophies of major Black American leaders during this period; and to evaluate major historical interpretations of Black American history from 1865 to the present. (5-0) 5
- HIS 2104-2504 SPECIAL TOPICS IN HISTORY:** This designation allows students individually or in groups to investigate in greater detail special topics of particular interest not covered in regular classroom offerings. The specific objectives will vary with each course. (1 to 5 hrs. class/week) (1 to 5 hrs. Credit)..
- HIS 2500 NORTH CAROLINA HISTORY:** Upon completion of this course the student should be able to examine the major historical, geographical, and governmental developments in North Carolina from the colonial era to the present. Through field trips and special projects the student will evaluate the cultural developments and socio-economic contributions of the state. (5-0) 5
- HIS 2520 ORIENTAL CIVILIZATIONS:** Upon completion of this course, the student should be able to: (1) Explain basic political, socio-economic, religious, and cultural developments in the history of East, Southeast, South, and West Asia from the earliest times to the present. (2) Identify significant persons, events, and ideas in the above mentioned area and period of study. (3) Learn independently from written materials. (4) Organize and present, orally and/or in writing, coherent reports on relevant topics. (5) Demonstrate comprehension that contemporary social, economic, and political problems are rooted in the past. (6) Demonstrate appreciation that causal explanation in history is necessarily complex. (5-0) 5
- HIS 2530 RUSSIAN HISTORY:** Upon completion of this course, the student should be able to: (1) Explain basic political, socio-economic, religious, and cultural developments in the history of Russia from its earliest beginnings through today. (2) Identify significant persons, events, and ideas in the above mentioned area and period of study. (3) Learn independently from written materials. (4) Organize and present, orally and/or in writing, coherent reports on relevant topics. (5) Demonstrate comprehension that contemporary social, economics, and political problems are rooted in the past. (6) Demonstrate appreciation that causal explanation in history is necessarily complex. (5-0) 5

HORTICULTURE

- HOR 3202 HOME AND YARD HORTICULTURE:** Upon completion of this course the student should be able to: (1) recognize common woody and herbaceous plant material and make decisions regarding its use; (2) demonstrate a general knowledge of grounds maintenance to include fertilizing, pruning, and plant pest control; (3) demonstrate a general knowledge of plant, turf, and specialty garden installation requirements. P.R. None. (2-0) 2
- HOR 3205 COOPERATIVE WORK EXPERIENCE (CO-OP):** Upon completion of this course the student should be able to: (1) exhibit a positive attitude toward work in a horticultural business; (2) gain applied experience to supplement class and lab learning. P.R. Permission of Program Director or Program Counselor. C.R. Registration for HOR 4200. (0-20) 2
- HOR 3302 LANDSCAPE GRAPHICS & MEASUREMENTS:** Upon completion of this course the student should be able to: (1) execute measurements commonly used in landscaping; (2) read "working" landscape plans and specifications; (3) prepare basic "working" landscape plans and specifications; (4) reproduce landscape plans. P.R. None. (2-2) 3

- HOR 3307 LANDSCAPE YOUR OWN HOME:** Upon completion of this course the student should be able to: (1) analyze the outdoor needs of the family and the environment factors affecting the property; (2) allot space for landscape uses; (3) choose the proper plant material and outdoor architectural features to enhance their property; (4) discuss and construct basic landscape construction features. P.R. None. (3-0) 3
- HOR 3312 INDOOR PLANTS:** Upon completion of this course the student should be able to: (1) describe the characteristics to look for in houseplants and plant shops; (2) discuss the importance of selected tools, supplies, and containers to proper houseplant care; (3) discuss the effects of selected environmental factors important to houseplants; (4) identify 30 selected houseplants; (5) identify and give control measures for 12 selected pest problems of houseplants. P.R. None. (2-2) 3
- HOR 3400 LANDSCAPE PLANTS I: WOODY:** Upon completion of this course the student should be able to: (1) identify by sight the 86 selected plants; (2) list the physical characteristics, cultural requirements, and landscape uses of these plants; (3) identify any special remarks regarding these plants. P.R. None. (3-2) 4
- HOR 3401 PLANT PROPAGATION I:** Upon completion of this course the student should be able to: (1) perform the following types of sexual propagation: (a) layering; (b) cuttings; (c) grafting; (d) budding; (e) dividing; (2) perform sexual (seed) propagation of ornamental plants; (3) select, use, and maintain equipment and supplies used in plant propagation; (4) choose the correct propagation method for a variety of ornamental plants. P.R. None. (2-4) 4
- HOR 3404 LANDSCAPE PLANTS II: WOODY & HERBACEOUS:** Upon completion of this course the student should be able to: (1) identify by sight the 120 selected plants; (2) list the physical characteristics, cultural requirements and landscape use of these plants; (3) identify any special remarks regarding these plants. P.R. None. (3-2) 4
- HOR 3405 GROUNDS MAINTENANCE II:** Upon completion of this course the student should be able to: (1) explain the purpose of and list sources of the major, minor, and trace nutrient elements; (2) identify deficiency symptoms of nutrient elements; (3) perform simple soil tests for nutrient content and pH; (4) select and apply correctly fertilizers to selected ornamentals; (5) identify and execute preventive and corrective controls of selected insect pests and ornamentals; (6) identify and execute preventive and corrective controls of selected disease pests of ornamentals; (7) select, use, and maintain equipment items and materials used in the above operations. P.R. None. (2-4) 4
- HOR 3410 TURF MANAGEMENT:** Upon completion of this course the student should be able to: (1) identify at least 7 selected turf grasses; (2) list the cultural requirements for each of the seven (7) selected turf grasses; (3) establish turf grasses by 4 different methods; (4) maintain turf grass by being able to select and use turf equipment and supplies; (5) identify and control common turf pests. P.R. None. (2-4) 4
- HOR 3503 NURSERY TECHNOLOGY:** Upon completion of this course the student should be able to: (1) perform the day to day operations used to grow, maintain and harvest both container and field grown nursery stock; (2) select, use and maintain nursery equipment and supplies; (3) discuss the various kinds of nurseries; (4) discuss marketing of nursery products and services; (5) perform garden center operations. Prerequisite: None. (3-4) 5
- HOR 3504 GROUNDS MAINTENANCE I:** Upon completion of this course the student should be able to: (1) identify problems of and execute preventive and corrective controls of weed problems common to ornamentals; (2) select and apply mulches for usual maintenance situations; (3) identify and execute preventive and corrective controls of water problems in grounds maintenance; (4) prune all plants on a selected list of ornamentals; (5) select, use, and maintain equipment items used in the above operations. P.R. None. (3-4) 5
- HOR 3505 LANDSCAPE GARDENING:** Upon completion of this course the student should be able to: (1) analyze the landscape potential of a landscape project area; (2) prepare detailed landscape plans, plant lists, and planting specifications; (3) install a landscape planting; (4) perform basic landscape construction. P.R. HOR 3302. (3-4) 5
- HOR 4100 HORTICULTURE SEMINAR:** Upon completion of this course the student should be able to: (1) demonstrate knowledge of various horticulture job classifications responsibilities and rewards that are entailed in each; (2) demonstrate knowledge of various horticultural organizations and agencies. P.R. None. (1-0) 1
- HOR 4200 CO-OP SEMINAR:** Upon completion of this course the student should: (1) describe tasks and competencies under various jobs performed during co-op experience; (2) discuss employee-employer relationships; (3) complete a job application and simulated job interview. C.R. Registration for HOR 3205. (2-0) 2
- HOR 4300 ARBORICULTURE:** Upon completion of this course the student should be able to: (1) identify growth characteristics of selected shade and ornamental trees; (2) select and apply correct tree maintenance procedures to include: (a) fertilizing; (b) pruning; (c) pest prevention and control; (3) know and apply basic safety rules of climbing and felling. P.R. None. (2-2) 3
- HOR 4404 PLANT PROPAGATION II:** Upon completion of this course the student should be able to: (1) perform advanced asexual propagation techniques to include: (a) 5 types of layers; (b) 7 types of cuttings; (c) 6 types of grafts and/or buds; and (d) aseptic cultures; (2) perform advanced sexual propagation techniques to include: (a) selected pollination; (b) scarification; (c) stratification; (3) complete detailed propagation project as assigned by the instructor. P.R. 3401. (2-4) 4
- HOR 4411 GREENHOUSE HORTICULTURE:** Upon completion of this course the student should be able to: (1) demonstrate a working knowledge of greenhouse construction, materials, and equipment; (2) discuss the physical and cultural needs of greenhouse plants; (3) demonstrate a working knowledge of the growing of cut flower, bedding plant, seasonal pot plant; and foliage plant crops. P.R. None. (2-4) 4

HEALTH, PHYSICAL EDUCATION AND RECREATION

- HPE 1100 INDIVIDUAL ACTIVITY:** These are exploratory courses taught on a temporary basis for possible inclusion in the regular curriculum approved by the Health, Physical Education and Recreation Department for a particular student. P.R. consent. (0-3) 1
- HPE 1101 ARCHERY:** The student will be taught the fundamentals in using the bow and arrow and point-of-aim, and will examine other methods used in archery. (0-3) 1
- HPE 1103 WATER SKIING:** An introduction to the sport of water skiing. The student will learn care of equipment, safety procedures and development of fundamental skills of water skiing. P.R. Demonstrated swimming proficiency and consent. (0-3) 1
- HPE 1104 FENCING — BEGINNING:** Introduction to the art of fencing. The student will learn elementary foil technique and be introduced to competitive fencing. (0-3) 1
- HPE 1105 FENCING — INTERMEDIATE:** This course is a continuation of beginning fencing. The student will learn advanced

- foil techniques such as the balastra, the fleche, the croise, taking the blade and competitive fencing. P.R. HPE 1104 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1106 FENCING — ADVANCED: In this advanced course the student will execute elementary sobre techniques; the en guard position; the lunge; the cut at head, crest and flank; various parries; more advanced foil techniques; and engage in advanced competitive fencing. P.R. HPE 1105 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1107 SELF-DEFENSE AND PHYSICAL CONDITIONING — BEGINNING: The first in a series of three courses designed to promote physical well-being and increased self-confidence through the acquisition of skills in self-defense. Upon completion of the course the student should be able to demonstrate stances; blocks; punches; walking and kicks. (0-3) 1
- HPE 1108 SELF-DEFENSE AND PHYSICAL CONDITIONING — INTERMEDIATE: A continuation of the beginning course in which the student will learn pre-arranging and will start first forms and katas. P.R. HPE 1107 or equivalent. (0-3) 1
- HPE 1109 SELF-DEFENSE AND PHYSICAL CONDITIONING — ADVANCED: The student will review skills learned in the intermediate course and will learn advanced new techniques and skills in free fighting and defense against weapons. P.R. HPE 1108 or equivalent. (0-3) 1
- HPE 1110 CAMPING, TRAILER: Pre-season and post season preparation for your recreation vehicle. The student will be able to do basic hook-ups; do-it-yourself maintenance and be able to utilize information on camping and trailering. (0-3) 1
- HPE 1111 SCUBA DIVING: An introduction to the sport of scuba diving. The student will be introduced to the use of the face mask, snorkel, fins, and other scuba gear. P.R. Demonstrated swimming proficiency and consent. (0-3) 1
- HPE 1112 CANOEING BASIC: Student should be able to demonstrate safe handling skills, self-rescue skills, ways to apply the basic skills. Students will be able to name the parts of a canoe and will be able to perform the following strokes: bow stroke, diagonal draw, bow rudder, cross bow rudders, draw stroke, pushover, sculling, reverse sculling, sweeps, reverse sweeps and J stroke. (0-3) 1
- HPE 1113 BASIC WHITE WATER CANOEING: The student should be able to demonstrate successful negotiation of basic Class I, II, III, white water rivers in North Carolina and be able to identify safety rules, select proper equipment and perform specific strokes. (0-3) 1
- HPE 1114 SNOW SKIING — BEGINNING: Instruction in the proper fundamentals of skiing, safety and etiquette. The student will receive instruction in skiing, parallel turns, christies, basic jump and introductory wedelin. (0-3) 1
- HPE 1115 SNOW SKIING — INTERMEDIATE: In this second course in snow skiing, the student will progress to longer skis, concentrating on improving traverse and side slip; expand on angulation, pole plant and unweighting; and engage in an intermediate exercise program in order to handle more advanced terrain. P.R. HPE 1114 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1116 SNOW SKIING — ADVANCED: In this advanced course in snow skiing, the student will be introduced to Slalom and Giant Slalom techniques, elementary downhill techniques, trick skiing and jumping. P.R. HPE 1115 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1117 ICE SKATING — BEGINNING: The student will be introduced to basic ice skating maneuvers such as forward and backward; stroking and foot glide; crossovers; arabesque; and backward wiggle — giving solid foundation to build in future ice skating activities. (0-3) 1
- HPE 1118 ICE SKATING — INTERMEDIATE: This second course in ice skating will provide the student with opportunities to learn and exhibit advanced maneuvers such as backward stroking; backward scooters; forward outside and inside eights; backward arabesque; and right-left forward inside mohawk followed by backward-outside mohawk. P.R. HPE 1117 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1119 ICE SKATING — ADVANCED: This advanced course in ice skating will provide further opportunities for the student to learn and exhibit advanced maneuvers including two foot spin; forward-backward chasses in four dance positions; the Dutch Waltz; Cross Rolls in dance position; and Waltz and Ballet Jump. P.R. HPE 1118 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1123 PHYSICAL FITNESS — BEGINNING: The student should be able: (1) to identify positive health practices in physical activity, diet, rest and relaxation; (2) to show evidence of improved cardiovascular endurance, upper body strength, and flexibility; (3) to plan a training program which will result in the achievement and/or maintenance of a high level of health fitness. (0-3) 1
- HPE 1125 SLIMNASTICS — ADVANCED: Upon completion of this course the student should be able to identify and perform specific exercises for various parts of the body; recognize motivating factors influencing beginning and maintaining an exercise program; design a personal exercise program based on individual lifestyles and needs; identify precautions to be considered in exercising. (0-3) 1
- HPE 1126 SOCIAL DANCE — BEGINNING: A course in the development and successful performance of dance skills with an accent on social and recreational values. The student will learn the Fox Trot, Waltz, Lindy, Cha-Cha, and Rumba. (0-3) 1
- HPE 1127 SOCIAL DANCE — ADVANCE BEGINNER: The basic dance student will learn to perform more difficult steps and types of dance including the Tango, Samba, Polka and the Discotheque. P.R. HPE 1126 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1128 SOCIAL DANCE — INTERMEDIATE: This is a continuation of HPE 1127 with the addition of more difficult steps to the dances learned in that course. The student will learn to perform basic steps in the Charleston. P.R. HPE 1127 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1129 SOCIAL DANCE — ADVANCED: This is an advance study of popular social dances designed to instruct the experienced student in advanced steps and to polish the dancer's technique. The student will learn to perform basic steps in the Merengue and the Bossa-Nova. P.R. HPE 1128 or equivalent. (Self-supporting)* (0-3) 1
- HPE 1130 CLOGGING: The basic techniques of clagging are presented. The student will gain an understanding of dance routines used by clagging teams and will improve rhythm. (0-3) 1
- HPE 1131 CURRENT TRENDS IN SOCIAL DANCE: The student will study Current Issues in Social Dance emphasizing Modern Disca dancing techniques and methods. This course is designed for adults of all ages. After successfully completing the course the student will be able to demonstrate current disca dance steps; be able to self-choreograph their own freestyle routines. (0-3) 1
- HPE 1132 PHYSICAL FITNESS — INTERMEDIATE: Upon successful completion of this course the student will be able to take

each component of fitness (strength, cardiovascular and muscular endurance, and flexibility) and perform specific exercises related to each. The student will be asked to continue development of a personal fitness program. Prerequisite HPE 1123.

(0-3) 1

HPE 1134 BASIC COURSE OF AMERICAN SQUARE DANCING: A course consisting of the first 50 of the basic fundamental movements of square dancing. The course stresses the importance of dancing well and emphasis is placed on smoothness in the dance.

(0-3) 1

HPE 1135 EXTENDED BASIC COURSE OF AMERICAN SQUARE DANCING: This is the second or intermediate phase of the Square Dance Program. The student will be introduced to Couple Right Hand Star, Ladies Chain Left and Right, Ocean Wave, Clover Leaf and other popular movements on this level. P.R. HPE 1134 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1136 ADVANCED BASIC COURSE OF AMERICAN SQUARE DANCING: This is the third or advanced phase of the Square Dance Program. The student will be introduced to Allemande "O", Spin The Top, Dixie Style Ocean Wave and other advanced basic steps. P.R. HPE 1135 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1137 EXPLORATORY SQUARE DANCE CLASS: This is a continuing or "terminal" class for students who have completed the basic, extended basic and advanced basic courses. The student will explore new and experimental basic movements as they are developed and introduced into Modern Square Dancing such as Sashay Turn, Dixie Daisy, Fan the Top, Divide the Star, Hero and others. P.R. HPE 1136 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1138 INTERMEDIATE CLOGGING: Upon completion of this course the student will be able: (1) to perform all basic steps from Beginning Clogging; (2) to perform intermediate and advanced steps in Clogging; (3) to develop and exhibit simple precision routines; (4) to perform intermediate Square Dance Routines; (5) to design their own routines from steps presented.

(0-3) 1

HPE 1140 SELF PROTECTION FOR WOMEN: The student will be able to identify various alternatives for women to use in case of personal attack, particularly stressing counter-attack for as many different situations as possible, based on simplified techniques of Kung Fu. Upon completion of course student will be able to perform techniques to use in specific situations and perform various kicks, blocks, etc.

(0-3) 1

HPE 1144 GOLF — BEGINNING: The student is introduced to the fundamentals of the golf swing, game rules and etiquette. Emphasis is placed on learning to swing properly, hitting the ball, and putting these skills into practice on the golf course.

(0-3) 1

HPE 1145 GOLF — INTERMEDIATE: The student will review basic fundamentals of the golf swing with emphasis on short game (chipping and putting) and lowering golf scores, plus practical playing experience. P.R. HPE 1174 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1146 GOLF — ADVANCED: The student will be introduced to advanced instruction on special shots such as deliberate hook or slice, sand shots, playing in the wind, tips to lower scores, etc.; and playing lessons on the golf course to teach putting all shots together. P.R. HPE 1145 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1147 TENNIS — BEGINNING: The student is introduced to elementary skills for ground strokes including the introduction of the serve, volley, smash and lob. Rules and the elementary strategy for singles and doubles are also taught.

(0-3) 1

HPE 1148 TENNIS — INTERMEDIATE: This course continues the development of the student's skill to a higher level of play. The introduction of different types of shots and the basic strategy for singles and doubles are presented. P.R. HPE 1147 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1149 TENNIS — ADVANCED: In this advanced course the student will utilize advanced shots, spins, pace and strategy. P.R. HPE 1148 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1154 TAP DANCING — BEGINNING: Students will become familiar with elemental constructions, motions and patterns in tap dancing.

(0-3) 1

HPE 1155 TAP DANCING — INTERMEDIATE: The course utilizes basic principles from Beginner tap in studies of more complex patterns. Self-choreography and extensive exercise discipline are introduced. The student will begin individual style development. P.R. HPE 1154 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1156 TAP DANCING — ADVANCED: This advanced course allows the student freedom for self expression and style. Attention is given to detail in tap construction. P.R. HPE 1155 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1157 JAZZ DANCE — BEGINNING: The student will study Jazz Dance art forms which connect to other art forms through observation, participation and commentary. Participation will include working drum, cymbals, rhythm sticks, etc. Various sections of the course will be geared to different age groups.

(0-3) 1

HPE 1158 JAZZ DANCE — INTERMEDIATE: The student will utilize principles of jazz dance at the beginner level in developing self-disciplined standards in exercising, learning self-choreography and performance. P.R. HPE 1157 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1159 JAZZ DANCE — ADVANCED: This is an open end seminar class to provide the student with variable content and an experimental atmosphere. The student will prepare independent programs for evaluation. Field trips will be scheduled to encourage civic awareness of dance. P.R. HPE 1158 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1164 YOGA — BEGINNING: The student will become acquainted with basic disciplines of Yoga, including physical postures, proper breathing techniques, attitudes of positive thinking and confident self-awareness, and techniques to improve relaxation and mental concentration.

(0-3) 1

HPE 1165 YOGA — INTERMEDIATE: A continuation of the beginning course in which the student will acquire more detail on physical postures, breathing, relaxation and mental concentration. P.R. HPE 1164 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1166 YOGA — ADVANCED: The student will learn advanced types of breathing and concentration using sounds. Difficult physical postures such as headstands are presented. P.R. HPE 1165 or equivalent. (Self-supporting)*

(0-3) 1

HPE 1170 AEROBICS: The student will learn physical conditioning by use of movement with music. Students will participate in vigorous exercise for cardiovascular endurance and calisthenic exercise for toning and firming muscles.

(0-3) 1

HPE 1174 MOUNTAINEERING I: A course to introduce the novice climber to fundamental mountaineering techniques. Students will use techniques included in such areas as mountain travel, basic climbing and rappelling bivouacs knots and equipment.

(0-3) 1

HPE 1175 MOUNTAINEERING II: This is a course designed for advanced students in perfecting their skills in the following

areas: general climbing, lead climbing, party climbing, and summit expeditions. P.R. HPE 1174 or equivalent. (Self-supporting)* (0-3) 1

HPE 1176 OUTDOOR SKILLS I (BASIC): Students will gain a basic understanding of hiking, backpacking, and camping. Each of these efforts is supported by classes in group dynamics, fire building, shelter construction, equipment management, map and compass reading, land navigation and First Aid. (0-3) 1

HPE 1177 OUTDOOR SKILLS II: The student will combine the practical application of planning and execution of all techniques necessary to accomplish a 24-48 hour trip into a wilderness area. P.R. HPE 1176 or equivalent. (Self-supporting)* (0-3) 1

HPE 1178 HORSEBACK RIDING — BEGINNING: Students will learn the fundamental skills and etiquette of riding. Instruction will include walking, trotting, cantering and jumping. (0-3) 1

HPE 1179 HORSEBACK RIDING — ADVANCED: The student will continue development of skills in the art of riding and handling horses such as riding with double reins on pelham, using direct and indirect rein; working on saddle seat for form and equitation; and riding and schooling a green horse. P.R. HPE 1178 or equivalent. (Self-supporting)* (0-3) 1

HPE 1184 SWIMMING — BEGINNER: For non swimmers and beginners who need more confidence in the water. This course is based upon the American Red Cross programs of instruction. Upon successful completion of this course the student should be able to demonstrate back float, crawl stroke — 20 yards and safety skills. (0-3) 1

HPE 1185 SWIMMING — ADVANCED BEGINNER: For the beginner swimmer who needs to increase skills for full confidence in deep water. Based on American Red Cross programs of instruction. Student should be able to demonstrate treading water, survival floating, elementary backstroke and crawl stroke. P.R. HPE 1184 or equivalent. (0-3) 1

HPE 1186 SWIMMING — INTERMEDIATE: To perfect the four basic strokes (breast stroke, sidestroke, crawl stroke and back crawl). The student should be able to demonstrate scissors kick, breast stroke kick, and underwater swim. This course is based on the American Red Cross programs of instruction and is the prerequisite for the swimmer and/or Life Saving courses. P.R. HPE 1185 or equivalent. (0-3) 1

HPE 1187 SWIMMING — SWIMMER: For the swimmer who wants to perfect strokes leading to the American Red Cross Water Safety Instructor Certificate. Student should be able to swim the breast stroke — 100 yards; sidestroke — 100 yards; crawl stroke — 100 yards; back crawl — 100 yards; and swim 10 minutes. P.R. HPE 1186. (0-3) 1

HPE 1188 SWIMMING — LIFESAVING: A prerequisite course for the American Red Cross Water Safety Instructor Certificate. Basic requirements for Life Guard Duty. The student should be able to demonstrate front and rear approaches, cross chest carry, and resuscitation. P.R. HPE 1186. (0-3) 1

HPE 1189 WATER SAFETY INSTRUCTOR: For the student desiring to teach swimming and/or Life Saving and/or Life Guard Duty. The student should be able to demonstrate beginner skills, swimming strokes, and lifesaving skills. P.R. HPE 1188. (0-3) 1

HPE 1194 SLIMNASTICS — BEGINNING: A program of exercise in physical conditioning which will result in firming muscles, thus improving coordination and posture. The student will be presented information on correct exercises to perform. (0-3) 1

HPE 1195 SLIMNASTICS — INTERMEDIATE: A continuation of the beginning course. The student will receive extensive knowledge for personal growth and understanding of the relationship between fitness and health, life style, increased movement and body contour. P.R. HPE 1194 or equivalent. (0-3) 1

HPE 1196 GYMNASTICS — BEGINNING: A course designed for teaching the student the fundamentals of gymnastics on the mats, parallel bars, side horse, and trampoline. (0-3) 1

HPE 1197 GYMNASTICS — INTERMEDIATE: The student will review the basic skills in gymnastic tumbling and apparatus and be introduced in intermediate skills such as vaulting skills, side horse and parallel bars for men; free floor exercises, DGWS intermediate routine on uneven parallel bars and balance beam routine for women. Men and women's stunts on the trampoline are presented. P.R. HPE 1196 or equivalent. (0-3) 1

HPE 1198 BOWLING — BEGINNING: The student will be instructed in skills, rules and strategy through films with an opportunity of participation at the bowling lanes. (0-3) 1

HPE 1199 BOWLING — INTERMEDIATE: In this second course in bowling, the student will demonstrate types of thrown balls; hook, curve, etc.; will learn lane etiquette, bowling terms, scorekeeping, and will gain practice in spot bowling for spares, timing, and correcting individual faults. P.R. HPE 1198 or equivalent. (Self-supporting)* (0-3) 1

*Credit will be given for successful completion of a self-supporting course. No additional credit, however, will be given for repeating same course.

HOTEL-RESTAURANT MANAGEMENT

HRM 3104 SPEAKER SEMINAR I: Upon successful completion of the course the student will have been exposed to the day to day task of managing a modern hotel or restaurant through guest speakers and will become acquainted with the problems and solutions experienced speakers will share with the students. (1-0) 1

HRM 3105 SPEAKER SEMINAR II: A continuation of Speaker Seminar I, with particular emphasis placed on guest speakers from national chain hotels and restaurants. Management contracts for future employment will also be discussed. (1-0) 1

HRM 3300 INTRODUCTION TO HOTEL/RESTAURANT MANAGEMENT: Upon successful completion of this course the student will be able to compare the present day operations of inns and restaurants to those of the past; define the different types of restaurant and food services; identify the positions within hotels and restaurants; compare the departments within a hotel and restaurant; distinguish between franchise and individually owned properties; assess future opportunity in a challenging and rewarding career with the hospitality industry. (3-0) 3

HRM 3301 FINANCIAL AND LEGAL ASPECTS OF INNKEEPING: Upon successful completion of the course the student will be able to assemble and organize a system to prevent law suits and losses costly to today's inns; relate local, state and federal regulations to operations of a modern inn; describe different instruments of finance that are used in the operation of a modern inn. (3-0) 3

HRM 4300 HOTEL/RESTAURANT MARKETING: Upon successful completion of the course the student will be able to organize a marketing schedule for future use; assemble positive sales ideas; prepare property and market analysis; prepare a sales forecast; and develop a sales promotion for a particular property. (3-0) 3

HRM 4301 HOUSEKEEPING PROCEDURES: Upon successful completion of the course the student will have demonstrated his ability to plan an organized area for the housekeeping department; implement a time study and procedures standard for cleaning a motel room; identify hazards in a motel; develop standards and procedures for purchasing and inventory controls; implement procedures for the reporting of repairs and preventive maintenance needs. (3-0) 3

HRM 4302 HOTEL/RESTAURANT MANAGEMENT RELATED PROBLEMS: Upon successful completion of the course the student will be able to compare circumstances of hotel/restaurant operations to everyday work situations; institute a workable plan to control and maintain good employee morale; and write and identify standards of dress and conduct. Through role playing and analysis the student will become familiar with actual situations to which he/she will be exposed in future employment. (3-0) 3

HRM 4310 RESTAURANT SERVICE MANAGEMENT: Upon successful completion of this course the student will be able to identify the different stations and responsibilities of each relating to proper service; identify and purchase proper equipment in a dining room set-up; demonstrate practical sanitation and safety procedures; demonstrate to others the proper attitude and methods of being a waiter/waitress; establish and set-up guidelines for management of dining rooms. (1-6) 3

HRM 4804 WORK EXPERIENCE SEMINAR I: Upon successful completion of the course the student should be able to exhibit positive work attitudes and write job descriptions on the departments within the hotels/motels assigned during clinical experience. Lab or clinical experience will consist of on-the-job training within the following areas: Housekeeping, Superintendent of Transportation and Services, Maintenance and Front Office. (3-15) 8

HRM 4805 WORK EXPERIENCE SEMINAR II: A continuation of Work Experience Seminar I with continued emphasis on work attitudes and job descriptions. The student will be assigned to the restaurant of a hotel/motel and will cover the following areas: Dishwashing Department, Salad Department, Cooks Helper, Chef's Assistant, Dining Room-Busboy, Dining Room — Waiter/Waitress and Bar/Lounge-Bartender. (3-15) 8

HRM 4806 WORK EXPERIENCE SEMINAR III: A continuation of Work Experience Seminar II. Emphasis in this course will be placed on the student becoming familiar with the following areas: Accounting-Auditors Office, Credit Department, Personnel Department, and General Manager. Students will be assigned to hotels/motels within the Charlotte area to complete their clinical experience. A week of analysis and evaluation is included to assist the graduate in ascertaining job opportunities in the hospitality industry. (3-15) 8

HUMAN SERVICES

HSA 3300 AGING IN CONTEMPORARY SOCIETY: Upon completion of this course the student should be able to: (1) prepare a written and/or recorded case study of an older adult, preferably over the age of seventy-five and comment in detail on the following areas as they relate to the subject: demography, historical aspects, psycho/social processes, biological and intellectual aspects, role of and effect of job career changes, retirement, leisure activities and the aspects of death, dying and bereavement. P.R. Permission from instructor. (3-0-0) 3

HSA 3301 THE OLDER ADULT IN YOUR COMMUNITY: Upon completion of this course the student should be able to: (1) prepare a written and/or recorded case/observation study of an older adult and comment on the following areas as they relate to the subject of the study supplemented by photograph and short recorded comments from subject or relevant person: demography, biological and psychological aspects, psycho/social and societal aspects. P.R. None. (3-0-0) 3

HSA 3303 HELPING RELATIONSHIPS AND THE OLDER ADULT: Upon completion of this course the student should be able to: (1) describe the various forms of non-verbal communication which are cues to personality and needs of a helpee; (2) describe particular needs and behaviors of the older adult; (3) demonstrate effective and appropriate interviewing skills; (3A) demonstrate ability to use appropriate leads, responses, and questions; (4) demonstrate effective helping skills in a problem-oriented helping relationship; (4A) demonstrate prehelping skills, attending skills, and appropriate responses. P.R. None. (3-0-0) 3

HSA 3310 THE EXCEPTIONAL CHILD: Upon completion of this course the student should be able to: (1) identify and discuss characteristics of developmental exceptionalities; (2) identify community and state resources available for families with exceptional children; (3) identify a variety of activities appropriate for children who are exceptional in personality and/or physical development; (4) identify ways exceptional children use materials, supplies, and equipment differently from other children; (5) identify techniques of working with parents to help lessen their apprehensions about their child's condition; (6) define the procedures for referring a child to special services. P.R. None. (3-0-0) 3

HSA 3311 MATERIALS AND ACTIVITIES FOR THE YOUNG CHILD: Upon completion of this course the student will be able to: (1) describe the role of play and play materials in the development of the young child; (2) describe the teacher's role in fostering and guiding children's creative ability; (3) identify raw art materials, their potential and use with the young child; (4) identify the principles and practices of music, movement, sound and rhythm for the young child; (5) identify the process of language development through the use of children's books, story-telling, dramatization; (6) identify appropriate science and math experiences and materials; (7) identify and discuss techniques for implementing a stimulating outdoor learning environment; (8) describe and discuss importance of manipulative toys and blocks in the development of the young child. P.R. None. (3-0-0) 3

HSA 3312 EDUCATION FOR YOUNG CHILD: Upon completion of this course the student will be able to: (1) identify recent trends affecting early childhood education, i.e., research political, and sociological factors; (2) identify and discuss four (4) educational models for young children; (3) describe and discuss the role of teacher, child, and environment in four (4) educational models; (4) identify and describe one's own philosophy of education. P.R. None. (3-0-0) 3

HSA 3313 THE DYNAMICS OF DEATH AND DYING: Upon completion of this course the student should be able to: (1) describe the various stages involved in the drama of dying; (2) identify and describe customs that have evolved as means of coping with death; (3) describe various legal and technical matters related to the death of a relative. The student should be able to understand death and dying from several different perspectives and relate the process to the total life cycle. The student will gain awareness of the process of dying that will hopefully reduce the fear of death. P.R. None. (3-0-0) 3

HSA 3322 HUMAN SEXUALITY IN THE HELPING SKILLS: Upon completion of this course the student should be able to: (1) demonstrate effective skills in a helping situation concerning sexuality; (2) identify major sexual behaviors and needs found within each client group; (3) list the psychological and sociological factors culminating in variation of sex role behaviors in males and females, i.e., masculine role and behavior, feminine role and behavior; (4) demonstrate self awareness and personal growth by formulating a philosophy of interpersonal sexuality applicable to the student's work situation. (3-0-0) 3

HSA 3323 LEGAL ASPECTS OF SOCIAL WELFARE: Upon completion of this course the student should be able to: (1) describe and explain the Protective Service Law for children and adults and list responsibilities and limitations which affect social

workers; (2) list the steps of preparation of records and information gathering for use in court; (3) explain the admissibility of evidence; (4) describe the role of the social worker as a witness; (5) explain the custody rights of children, the rights of parents, and the rights of the agency; (6) explain and describe the adoption laws of the State of North Carolina, the validity of the state law, and the rights of the unwed father; (7) discuss the responsibility of paternity; (8) discuss involuntary commitments: legal base, purposes, and the social worker's responsibilities and limitations as guardians and trustees. P.R. None.

(3-0-0) 3

HSA 3402 SIGN LANGUAGE I: Upon completion of this course the student should be able to: (1) demonstrate communication skills on a non-technical level with members of the deaf population in both expressive and receptive American Sign Language; (2) interact with deaf persons on a one-to-one basis; (3) demonstrate an awareness and relate to the difficulties of a deaf person growing up in a hearing society; (4) demonstrate a practical sign vocabulary of between 300-375 words. P.R. None.

(3-2-0) 4

HSA 3404 SIGN LANGUAGE II: Upon completion of this course the student will demonstrate; (1) accuracy and clarity in fingerspelling with an average of better than 75% on both expressive and receptive tests; (2) a practical sign vocabulary of between 500-750 words; (3) the ability to discuss the psychological implications of deafness; (4) the ability to discuss the various sign systems; (5) a working competence with prefixes and suffixes as shown in written tests and expressive translation with an average of better than 75%. P.R. HSA 3402, Sign Language I, or instructor consent.

(3-2-0) 4

HSA 3405 SIGN LANGUAGE III: Upon successful completion of this course the student will demonstrate: (1) a working competence with approximately 200 basic sign language idioms as shown in both written tests and expressive signing with an average of better than 75%; (2) a working competence with approximately 200 English idioms as shown in both written tests and expressive signing with an average of better than 75%; (3) the ability to discuss the sociological implications of deafness. P.R. HSA 3402, Sign Language I, or instructor consent.

(3-2-0) 4

HSA 3414 HELPING RELATIONSHIP, ADVANCED TECHNIQUE: Upon completion of this course the student should be able to: (1) identify and distinguish appropriate responses in the initial and continuous helping relationships, to include helper assertiveness and client motivation; (2) discuss the face-field analysis of problem solving, to include: (a) identifying and clarifying the client's problems and establishing the client's priorities, (b) establishing client's goals and implementing tasks, (c) reviewing and evaluating the client's progress; (3) demonstrate a more effective skill of helping by the use of: (a) feeling discrimination, (b) concreteness, confrontation, and alternative action, (c) decision making and problem solving. P.R. HSA 3604.

(3-0-3) 4

HSA 3415 HELPING RELATIONSHIP: MANAGEMENT SKILLS: Upon completion of this course the student should be able to: (1) identify and describe factors for successful time management and organization within a helping agency; (2) identify and discuss ethical standards of a helping relationship; (3) identify and discuss methods for selecting, supervising, and evaluating staff members, to include: a) appropriate assertiveness skills and b) instructing and motivating skills; (4) demonstrate appropriate skills of assertiveness, instruction, motivation, and supervision. P.R. HSA 3604 and HSA 3414.

(3-0-3) 4

HSA 3421 HELPING AND BEHAVIORAL STRESS: Upon completion of this course the student should be able to: (1) identify and discuss the major factors of behavioral and physical development relating to stress/anxiety; (2) identify and define positive and negative factors of stress and identify methods for defining and coping with individual anxiety; (3) identify and define real-life crises of: alcohol and drug abuse, suicide, bereavement, grief and loss, maturation, the family, and individual psychiatric emergencies; (4) define and discuss the association to crisis/stress of: anxiety, defense mechanisms, values and belief systems, needs, and cultural and environmental influences; (5) identify and discuss the major factors and characteristics of a disaster and community crisis, to include: psychological shock, disaster syndrome, variation of victim reaction, and psychological epidemic; (6) identify methods of psychological helping for persons in crisis and appropriateness of such crisis intervention to specific behavioral problems; (7) demonstrate skills of coping with individual anxiety/stress and of helping a stress victim(s), both in non-verbal and verbal response; (8) identify various local agencies dealing with crisis and discuss their function and methods of referral and treatment. P.R. None.

(4-0-0) 4

HSA 3501 INTRODUCTION TO HSA: Upon completion of this course the student will be able to: (1) describe the Human Services Program, including the four option areas; (2) give the four core courses, describe their content and explain the rationale for inclusion as core courses; (3) given an option area, name at least three agencies related to it and describe the type of clients referred to these agencies; (4) correctly describe the procedure for being advised and contracting for field placement; (5) identify the following specific major client groups and the various stresses caused by social, emotional, and physical characteristics associated with each group: (a) Mental Health, (b) Emotionally Disturbed, (c) Alcoholism, (d) Drug Abuse, (e) Sexuality, (f) Mental Retardation and Brain Damage, (g) Epilepsy, (h) Learning Disabilities, (i) Visual Impairment, (j) Hearing and Speech Impairment, (k) Physical Disabilities, (l) Aging; (6) identify specific agencies which offer services to the above client groups. P.R. None.

(5-0-0) 5

HSA 3502 INTERPERSONAL RELATIONSHIPS: Upon completion of this course the student should be able to: (1) demonstrate five skills of non-verbal communications; (2) demonstrate five skills of verbal communications; (3) identify and list at least three personal strengths and three weaknesses in relationships with others; (4) identify five personal values; (5) identify four personal behavioral goals; (6) demonstrate ability to change two identified negative behaviors and develop two identified positive behaviors; (7) list and describe Maslow's Hierarchy of Needs; (8) list Erickson's eight stages of development; (9) list and describe Powell's five levels of communication; (10) identify and describe five games people play and the defense mechanism involved in each. P.R. HSA 3501.

(5-0-0) 5

HSA 3503 INTRODUCTION TO DAY CARE ADMINISTRATION: Upon completion of this course the student will be able to: (1) describe the steps involved in setting up child care programs according to state and federal guidelines; (2) describe the management practices required in quality child care programs including fiscal budgets, records, ordering of supplies, equipment, scheduling, operational policies; (3) describe personnel practices required in quality child care programs, including job descriptions, interviewing techniques, staff evaluations, staff development; (4) describe parent and community resources available to child care centers. P.R. None.

(3-0-6) 5

HSA 3510 SCHOOL AGE CHILD CARE: Upon completion of this course the student will be able to: (1) describe the growth and development of the school aged child, with emphasis on the middle and late childhood years; (2) identify the physical, social, emotional, and intellectual needs of the school aged child; (3) describe the principles underlying an after-school care program; (4) plan particular segments of a program for the school aged child; (5) implement particular segments of a program for the school aged child. P.R. None.

(3-0-6) 5

HSA 3511 INFANT AND TODDLER DEVELOPMENT: Upon completion of this course the student will be able to: (1) describe the normal growth and development of the infant; (2) identify the needs of the developing infant; (3) describe the normal growth and development of the toddler; (4) identify the needs of the developing toddler; (5) list and discuss the principles underlying

a program for infants and toddlers; (6) plan particular segments of a program for infants and toddlers; (7) implement particular segments of a program for infants and toddlers. P.R. None. (3-0-6) 5

HSA 3514 INTRODUCTION TO INTERPRETING: Upon completion of this course the student should be able to: (1) demonstrate basic expressive interpreting and translating skills; (2) define and demonstrate ethical demeanor of professional interpreting. Basic interpreting experiences will be provided. P.R. HSA 3404 or instructor consent. (3-0-6) 5

HSA 3515 INTERPRETING II: Upon successful completion of this course the student will demonstrate: (1) accuracy and clarity in expressive interpreting and translating at a speed of 80-100 WPM; (2) a receptive ability in understanding intent and content in the signed message of a deaf speaker at a rate of 60-74%; (3) through role play, actual experience and written tests, a practical awareness of interpreting in V.R., community agencies, and interview situations: a) the responsibilities of the interpreter, b) the appropriate physical setting, c) the special vocabulary, d) ethics; (4) through role play and actual experience, a practical awareness of oral interpreting and blind/deaf interpreting; (5) expressive and receptive fingerspelling at an intermediate (60-80%) level as indicated by skills tests. P.R. HSA 3514 — INTRODUCTION TO INTERPRETING, or instructor consent. (3-6-0) 5

HSA 3516 INTERPRETING III: Upon successful completion of this course the student will demonstrate: (1) accuracy and clarity in expressive interpreting and translating at a speed of 100-125 words per minute; (2) a receptive ability in understanding the intent of deaf signers at a rate of 75-100%; (3) through role play, actual experience, and written tests, a practical awareness of interpreting in educational, medical, and platform situations; (4) demonstrate receptive and expressive fingerspelling clarity and accuracy as indicated by skills test. P.R. HSA 3515 — INTERPRETING II, or instructor consent. (3-6-0) 5

HSA 3517 REVERSE INTERPRETING I: Upon completion of this course the student will demonstrate: (1) a receptive ability to communicate the appropriate content and intent of deaf signers into correctly spoken English at a level of 60-74%; (2) a receptive ability to communicate the appropriate mood, sign inflection, and emotional intent of deaf signers into vocally expressive English at a level of 60-74%; (3) through role play and written tests, a practical awareness of the R.I.D. Code of Ethics as it pertains to reverse interpreting; (4) awareness of the principles of lip reading and how those principles aid in reverse interpreting, as indicated by skills tests; (5) a receptive ability to communicate fingerspelled words into spoken English at a level of 64-74%; (6) awareness of the appropriate situation to reverse interpret or reverse translate into good spoken English as indicated by skills tests. P.R. HSA 3515 — INTERPRETING II, or consent of instructor. (3-6-0) 5

HSA 3524 GROUP SKILLS: Upon successful completion of this course the student should be able to: (1) identify and define the differences between passive, aggressive, and assertive behaviors in interactions; (2) list at least seven of the ten types of assertive responses; (3) identify and demonstrate the three components of an assertive behavior; (4) set weekly assertive behavioral goals and successfully complete at least five goals; (5) identify and demonstrate through role-play three styles of group leadership applicable to working with major client groups; (6) correctly identify at least five roles which may be assumed by clients during group interactions; (7) identify and discuss the proximities of clients, as individuals and members of cultural subgroups; (8) develop and clarify a personal style of group leadership in working with clients; (9) demonstrate at least two methods of client-group facilitation or motivation; (10) demonstrate at least two methods of client group conflict-resolution. P.R. HSA 3502. (3-0-6) 5

HSA 3534 ADVANCED DAY CARE ADMINISTRATION: Upon completion of this course the student should be able to: (1) apply time management skills in performing administrative tasks in the operation of day care centers; (2) identify and demonstrate appropriate communication techniques, i.e., "I" messages, "affective listening", in the performance of administrative tasks in day care centers; (3) identify and describe special skills for building staff morale in day care, i.e., positive interpersonal relations, group process; (4) Assess and revise documents used in day care operations, i.e., personnel policies, parent handbook, job descriptions, budgets; (5) describe and discuss the legal aspects of day care operations; (6) identify short and long range personal professional goals in the area of day care operations. P.R. HSA 3503 or instructor consent. (3-0-6) 5

HSA 3600 COMMUNITY ORGANIZATION AND CASEWORK PREPARATION: Upon completion of this course the student should be able to: (1) identify and define a Human Service paraprofessional; (2) identify and describe roles and correlated activities that a HSA worker might play in social change in a local neighborhood or community; (3) identify and describe the philosophies, measures, and procedures used in vocational and social rehabilitation of the physically and mentally disabled; (4) identify and describe the scientific method of problem solving; (5) identify the members of the professional teams used in human services agencies and describe their backgrounds and functions; (6) identify the major organizational structure of human resources at federal, state and local levels, to include functions and practices; (7) identify and describe strengths and weaknesses of current delivery systems; (8) observe behavior and record significant observations in simple descriptive form. P.R. None. (3-0-9) 6

HSA 3604 HELPING RELATIONSHIP: TECHNIQUE: Upon completion of this course the student should be able to: (1) discuss the **Model of Facilitation**, identifying the levels of a helping relationship and their characteristics as found in the Model; (2) identify non-verbal communication behaviors of time, body, and vocal media and discuss their effect in the helping relationship; (3) identify closed and open questions and discuss their use in the helping relationship; (4) identify and distinguish appropriate and inappropriate responses and leads; (5) demonstrate effective use of appropriate responses and leads. P.R. HSA 4301. (3-0-9) 6

HSA 4300 HEARING AND DEAFNESS: Upon successful completion of this course the student should be able to: (1) relate the nature and perception of sound to the sense of hearing; (2) identify the major parts of the ear and the function of each part; (3) classify hearing losses according to auditory dysfunctioning; (4) describe some common causes of deafness; (5) identify various medical/surgical treatments of hearing losses; (6) identify the roles of the various professionals and paraprofessionals involved in the diagnosis and treatment of hearing losses. P.R. None. (3-0-0) 3

HSA 4301 HELPING RELATIONSHIP: THEORY: Upon completion of this course the student should be able to: (1) identify documents in a case file and basic forms used in various agencies; (2) correctly write an objective observation of a specific client; (3) identify facilitative methods of questioning in a helping situation; (4) identify various non-verbal cues in communication; (5) use the basic principles of reinforcement, modeling and extinguishing; (6) identify the basic principles of various techniques used in helping. P.R. None. (3-0-0) 3

HSA 4303 ORIENTATION TO BLINDNESS: Upon completion of this course the student should be able to: (1) trace the changing attitude toward blindness from 300 A.D. to the twentieth century and the reading and writing techniques during this period; (2) identify major parts of the eye; (3) describe common causes of blindness; (4) define blindness; (5) identify various agencies involved in working with the blind; (6) demonstrate knowledge of braille and daily living skills for the blind. P.R. None. (3-0-0) 3

HSA 4304 ORIENTATION TO DEAFNESS: Upon completion of this course the student should be able to: (1) trace the changing attitudes toward, and treatment of, the deaf in Europe and America from 300 B.C.-twentieth century; (2) compare and contrast

the mental development, emotional adjustment, and social maturity of hearing-impaired and hearing individuals; (3) demonstrate and evaluate various communication methods used in the education of the deaf. P.R. Nane. (3-0-0) 3

HSA 4310 ADULT/CHILD RELATIONS: Upon successful completion of this course the student will be able to: (1) identify principles underlying the development of a positive self-concept in young children; (2) identify and demonstrate effective listening skills, i.e., active listening, essential to positive one-to-one interaction and positive small group interaction with young children; (3) identify and demonstrate effective listening and communication skills essential to positive (job related) interaction with parents and staff in a variety of situations. P.R. Nane. (3-0-0) 3

HSA 4311 ACTIVITY THERAPY WITH OLDER ADULTS: Upon completion of this course the student should be able to: (1) discuss the demographic background and living arrangements of the older adult, including income, education and health; (2) discuss the psychological, sociological, biological and medical considerations of the older adult, particularly upon retirement; (3) discuss the significance of leisure in the life of the older adults; (4) discuss the need and purpose of providing recreational programs for older adults; (5) list various settings which provide leisure services for the older adults with specific needs; (6) discuss principles of planning purposeful recreational programs for the older adult; (7) describe a leader and discuss the strategies and techniques needed to lead an activity program for older adults; (8) discuss the implementation of an activity program for the older adult, including types of facilities and equipment needed, methods of keeping records and reports, and a final evaluation of the program; (9) list specific games and activities for the older adult which will meet specific needs; (10) discuss the future trends for activity programs being provided to meet the needs of the older adult. P.R. Nane. (3-0-0) 3

HSA 4312 ACTIVITY THERAPY WITH THE PHYSICALLY DISABLED: Upon completion of this course the student should be able to: (1) discuss the history of recreational services being offered to the physically disabled; (2) list and discuss the various types of physical disabilities and the medical terminology associated with each physical disability; (3) identify physical characteristics of a client's particular physical disability; (4) identify the emotional, social, and physical needs of clients with different physical disabilities; (5) list and describe specific games and activities which have been, or could be, adapted to meet the needs of the physically disabled client; (6) list architectural barriers and discuss measures being taken to remove such barriers from the community; (7) list the various agencies which provide recreational services for the physically disabled client within the community; (8) discuss future trends for activity programs being provided to meet the needs of the physically disabled client within the community; (9) list various agencies at a local, state, and national level which provide information concerning new methods and adapted activities for the physically disabled client. P.R. Nane. (3-0-0) 3

HSA 4313 ACTIVITY THERAPY WITH SPECIAL POPULATIONS: Upon completion of this course the student should be able to: (1) identify and describe various special populations within the community, to include: mentally retarded, emotionally disturbed, and socio-economically disadvantaged; (2) describe the physical, social, emotional, and intellectual needs of these citizens; (3) discuss the importance and need of providing recreational programs for special populations to enhance their physical, social, emotional and intellectual growth; (4) discuss the past and current efforts being made to meet the recreational needs of these individuals within the community; (5) list various agencies within the community which provide such programs for special populations; (6) describe the various recreational programs being provided by these agencies; (7) discuss the future trends for such programs continuing to provide recreational services for special populations. P.R. Nane. (3-0-0) 3

HSA 4390 INDIVIDUAL STUDY: This offering is being made to provide students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval by the sponsor and department head is required. P.R. Nane. (3-0-0) 3

HSA 4500 WORKING WITH PARENTS: Upon completion of this course the student will be able to: (1) discuss the importance of the caregiver establishing and maintaining a positive relationship with parents; (2) demonstrate positive relationships with parents, by daily contact and occasional conferences to facilitate the free flow of information about the children's lives inside and outside the center; (3) demonstrate techniques of interaction with parents (i.e., parent conferences, parent group meetings, newsletter) which will facilitate increased understanding of children; (4) identify and discuss values that could exist among families participating in a child care center; (5) plan and work with a family to develop consistent responses to the child's behavior and common goals in education; (6) identify the strengths and talents of parents as they may contribute to the development of their own children, and demonstrate, by invitations to parents, every possible opportunity to participate and enrich the group program, i.e., classroom visits, trips into the community; (7) discuss ways to promote positive parental self-concept. P.R. Nane. (3-0-6) 5

HSA 4501 INTRODUCTION TO ACTIVITY THERAPY: Upon completion of this course the student should be able to: (1) define the terms recreation, leisure activities, recreational therapy, education, and educational therapy; (2) identify at least three basic principles in the field of recreational therapy; (3) discuss three developmental and two current social trends in the use of recreational therapy programs; (4) list at least two agencies where recreational therapy programs are available for each of the major client groups; (5) identify at least four functions of a recreational therapy technician as a member of a treatment team; (6) demonstrate skill achievement through six (6) hours of weekly internship — (a) prepare reports, records and publicity material, (b) direct competitive and non-competitive games and activities with clients, (c) participate when needed in games and activities, (d) participate in individualized goal setting for clients with supervision. P.R. Nane. (3-0-6) 5

HSA 4502 ADMINISTRATION OF ACTIVITY THERAPY: Upon completion of this course the student will be able to: (1) identify at least five aspects of recreation therapy programs to include in an orientation training program for volunteers or new staff members; (2) list at least five safety factors to consider when inspecting outdoor equipment and at least five safety factors to consider when inspecting indoor facilities; (3) describe three types of program evaluations to use with clients and within an agency setting; (4) devise an annual budget when given a specific monetary figure and description of a recreation therapy program; (5) demonstrate skill development through six (6) hours of weekly internship — (a) organize specific events for sports, games and other therapeutic recreational activities and establish schedules, (b) inspect playgrounds, facilities and equipment to recommend replacement, repairs or adaptation to physical needs of clients, (c) assess programs or activities as to their acceptability and progress and interpret trends to clinical supervisors. P.R. HSA 4503 or instructor consent. (3-0-6) 5

HSA 4503 ACTIVITY THERAPY PROGRAM PLANNING: Upon completion of this course the student will be able to: (1) describe at least three methods of initiating client participation in recreation therapy activities; (2) list the dimension, standards, maintenance needs, and operational costs of five outdoor recreation facilities and five indoor recreation facilities; (3) devise one weekly and one monthly recreational program plan for a specific client group which reflects individual abilities; (4) list the materials, facilities and supplies necessary for implementation of this program plan; (5) devise one nightly client group; (6) list the materials, facilities and supplies necessary for implementation of the camping program plan; (7) demonstrate skill development through six (6) hours of weekly internship — (a) requisition needed supplies and equipment, (b) prepare activity reports for supervisors and recommend changes in programs for individual clients or program format, (c) provide leadership in teaching rules, regulations and methods of participation in sports, games or other program activities. P.R. HSA 4501 or instructor consent. (3-0-6) 5

HSA 4510 HEALTH AND SAFETY OF THE YOUNG CHILD: Upon successful completion of this course the student will be able to: (1) identify at least four general physical characteristics and needs of the young child at different periods of maturation: Infancy, toddlerhood, early childhood years; (2) identify at least four specific influences of nutrition on the young child's total development; (3) identify principles of nutrition and demonstrate the ability to apply these principles in school and home, by the student's completed plans for one week of nutritionally-sound menus for meals and snacks appropriate for young children; (4) describe and be familiar with basic health care and practices for the young child and his family (e.g., periodic physical check ups, immunization routines, dental care, healthful routines of daily life); (5) identify and describe at least five common illnesses and diseases of the young child; (6) identify and describe at least four specific first aid skills of possible use in school situations; (7) identify and describe the control of, at least five factors contributing to a safe and healthful environment for young children. P.R. None. (4-0-3) 5

HSA 4511 INTRODUCTION TO SOCIAL WELFARE: Upon completion of this course the student should be able to: (1) define social welfare and its relationship to social work in the United States; (2) discuss the social, historical, and political development of the American Social Welfare System and its institutions; (3) identify and discuss recent trends in social welfare, including the identification of current legislation (laws, bills) affecting the system; (4) discuss the basic characteristics of American society which contribute to the breakdown of individual and family self-care; (5) discuss the condition and extent of poverty in the United States today and current programs, both in operation and proposed, aimed at the alleviation of poverty and related social conditions. P.R. None. (5-0-0) 5

HSA 4608 SEMINAR: Upon completion of this course the student should be able to: (1) discuss thoroughly the work experience in the student's specialty area; (2) discuss the procedures, treatment methods and service techniques of the agency where the student interns; (3) complete an indepth research project as a major contribution to the student's Human Service curriculum, selected in consultation with the instructor; (4) maintain twelve (12) hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship. P.R. By permission of Program Director only. (2-0-12) 6

HSA 4614 PRACTICAL PROBLEMS OF CHILD CARE II: Upon completion of this course the student will be able to: (1) identify and describe the principles underlying a pre-school program which support the developmental needs of the whole child; (2) describe and implement effective techniques in observing and assessing the developmental needs of young children, i.e., anecdotal records, Koontz Child Developmental Program; (3) describe and implement effective techniques in evaluating pre-school environments in relation to the developmental needs of young children, i.e., classroom assessment tool, teacher assessment tool; (4) plan segments of a daily program for a group of young children; (5) implement segments of a planned daily program for a group of young children. P.R. HSA 5500, Practical Problems of Child Care I. (2-0-12) 6

HSA 5200 HUMAN RELATIONS: Upon completion of this course, the student should be able to: (1) demonstrate self awareness and personal growth by listing five or more new things that they have learned about themselves and five or more ways in which they have changed; (2) identify at least five of the things in life they value; (3) demonstrate skills for effective communication with others, such as listening, empathy; (4) list ten defense mechanisms and discuss the ones each student uses; (5) list five or more goals and decisions they have each made during the course; (6) discuss at least five ways to put into practice on a future job some of the Human Relations skills learned during the course. P.R. None. (2-0) 2

HSA 5500 PRACTICAL PROBLEMS OF CHILD CARE I: Upon completion of this course the student will be able to: (1) demonstrate effective techniques for working with children, i.e., showing respect for children as individuals with unique growth patterns and the ability to approach each child as a person of worth; (2) identify the various roles of the teacher as a facilitator of learning, as a model for children, and as a guide of children, using both direct and indirect techniques; (3) demonstrate effective techniques to use when developing satisfactory patterns of interacting with parents and staff; (4) describe the curriculum for young children and identify the experiences, media, and facilities which promote optimal development and self-discipline (self-knowledge). P.R. None. (3-0-6) 5

HSA 5501 CHILD DEVELOPMENT: Upon completion of this course the student will be able to: (1) identify the stages of the young child's development; (2) identify and discuss the inter-relationship between the social, cognitive, emotional and physical development of the child; (3) identify and describe factors which prevent and encourage maximum growth and development of the child; (4) identify and describe the characteristics of the child at different stages in the areas of social, cognitive, emotional, language, moral and physical development; (5) discuss the importance of play to the child's total development. P.R. None. (3-0-6) 5

HSA 5510 CDA PRACTICAL LAB I — SETTING UP AND MAINTAINING A HEALTHY LEARNING ENVIRONMENT: Upon completion of the practical lab experience the student will be able to: (1) organize space into functional areas recognizable by the children, e.g., block building, library, dramatic play, etc.; (2) maintain a planned arrangement for furniture, equipment and materials, and for large and small motor skills learning, and for play materials that is understandable to the children; (3) organize the classroom so that it is possible for the children to be appropriately responsible for care of belongings and materials; (4) arrange the setting to allow for active movement as well as quiet engagement; (5) take preventive measures against hazards to physical safety; (6) keep light, air and heat conditions at best possible levels; (7) establish a planned sequence of active and quiet periods, of balanced indoor and outdoor activities; (8) provide for flexibility of planned arrangement of space and schedule to adjust to special circumstances and needs of a particular group of children or make use of special education opportunities; (9) recognize unusual behavior or symptoms which may indicate a need for health care. P.R. None. (3-0-21) 5

HSA 5511 CDA PRACTICAL LAB II — ADVANCING PHYSICAL AND INTELLECTUAL COMPETENCE: Upon completion of this course the student will be able to: (1) use the kind of materials, activities and experience that encourage exploring, experimenting, questioning, that help children fulfill curiosity, gain mastery, and progress toward higher levels of achievement; (2) recognize and provide for the young child's basic impulses to explore the physical environment; master the problems that require skillful body coordination; (3) increase knowledge of things in their world by stimulating observation and providing for manipulative-constructive activities; (4) use a variety of techniques for advancing language comprehension and usage in an atmosphere that encourages free verbal communication among children and between children and adults; (5) assist the child to work gradually toward recognition of the symbols for designating words and numbers; (6) promote cognitive power by stimulating children to organize their experience (as it occurs incidentally or pre-planned for them) in terms of relationships and conceptual dimensions: classes of objects; similarities and differences; comparative size, amount, degree; orientation in time and space; growth and decay; origins; family kinship; causality; (7) provide varied opportunities for children's active participation, independent choices, experimentation and problem-solving within the context of a structured, organized setting and program; (8) balance unstructured materials such as paint, clay, blocks with structured materials that require specific procedures and skills; balance the use of techniques that invite exploration and independent discovery with techniques that demonstrate and instruct; (9) stimulate focused activities: observing, attending, initiating, carrying through, raising questions, searching answers and solutions for the real problems that are encountered and reviewing the outcomes of experience; (10) support expressive activities by providing a variety of creative art media, and allowing children freedom to

symbolize in their own terms without imposition of standards of realistic representation; (11) utilize, support and develop the play impulse, in its various symbolic and dramatic forms, as an essential component of the program; giving time, space, necessary materials and guidance in accord with its importance for deepening and clarifying thought and feeling in early childhood. P.R. None. (3-0-21) 5

HSA 5512 CDA PRACTICAL LAB III — BUILDING POSITIVE SELF CONCEPT AND INDIVIDUAL STRENGTH: Upon completion of the practical lab experience the student will be able to: (1) provide an environment of acceptance in which the child can grow toward a sense of positive identity as a boy/girl, as a member of his family and ethnic group, as a competent individual with a place in the child community; (2) give direct, realistic affirmation to the child's advancing skills, growing initiative and responsibility, increasing capacity for adaptation, and emerging interest in cooperation, in terms of the child's actual behavior; (3) demonstrate acceptance to the child by including his home language functionally in the group setting and helping him to use it as a bridge to another language for the sake of extended communication; (4) recognize individual differences in children's style and pace of learning and in the social-emotional aspects of their life situation and adjust the teacher-child relationship to the individual needs by using a variety of teaching methods and by maintaining flexible progressive expectations; (5) recognize when behavior reflects emotional conflicts around trust, possession, separation, rivalry, etc., and adapt the program of experiences, teacher-child and child-child relationships, so as both to give support and to enlarge the capacity face these problems realistically; (6) assess special needs of individual children and call in specialist help where necessary; (7) keep a balance for the individual child between tasks and experiences from which he can enjoy feelings of mastery and success and those other tasks and experiences which are a suitable and stimulating challenge to him, yet not likely to lead to discouraging failure; (8) assess levels of accomplishment for the individual child against the background of norms of attainment for a developmental stage, taking into careful consideration his individual strengths and weaknesses and considering opportunities he has or has not had for learning and development. P.R. None. (3-0-21) 5

HSA 5513 CDA PRACTICAL LAB IV — ORGANIZING AND SUSTAINING THE POSITIVE FUNCTIONING OF CHILDREN AND ADULTS IN A GROUP IN A LEARNING ENVIRONMENT: Upon completion of the practical lab experience the student will be able to: (1) plan the program of activities for the children to include opportunities for playing and working together and sharing experiences and responsibilities with adults in a spirit of enjoyment as well as for the sake of social development; (2) create an atmosphere through example and attitude where it is natural and acceptable to express feelings, both positive and negative — love, sympathy, enthusiasm, pain, frustration, loneliness or anger; (3) establish a reasonable system of limits, rules and regulations to be understood, honored and protected by both children and adults, appropriate to the stage of development; (4) foster acceptance and appreciation of cultural variety by children and adults as an enrichment of personal experience; development projects that utilize cultural variation in the family population as resource for the educational program. P.R. None. (3-0-21) 5

HSA 5514 CDA PRACTICAL LAB V — BRINGING ABOUT OPTIMAL COORDINATION OF HOME AND OTHER CHILD-REARING PRACTICES AND EXPECTATIONS: Upon completion of the practical lab experience the student will be able to: (1) incorporate important elements of the cultural backgrounds of the families being served: food, language, music, holidays, etc., into the children's program in order to offer them continuity between home and center settings at this early stage of development; (2) establish relationships with parents that facilitate the free flow of information about their children's lives inside and outside the center; (3) communicate and interact with parents toward the goal of understanding and considering the priorities of their values for their children; (4) recognize each child as a member of his particular family and work with his family to resolve disagreements between the family's life style with children and the center's handling of child behavior and images of good education; (5) recognize and utilize the strengths and talents of parents as they may contribute to the development of their own children and give parents every possible opportunity to participate and enrich the group program. P.R. None. (3-0-21) 5

HSA 5515 CDA PRACTICAL LAB VI — CARRYING OUT SUPPLEMENTARY RESPONSIBILITIES RELATED TO THE CHILDREN'S PROGRAMS: Upon completion of the practical lab experience the student will be able to: (1) make observations on the growth and development of individual children and changes in behavior, formally or informally, verbally or in writing, and share this information with other staff involved in the program; (2) engage with other staff in cooperative planning activities such as schedule or program changes indicated as necessary to meet particular needs of a given group of children or incorporation of new knowledge or techniques as these become available in the general field of early childhood education; (3) demonstrate awareness of management functions such as ordering of supplies and equipment, scheduling services, safeguarding health and safety and transmit needs for efficient functioning to be the responsible staff member or consultant. P.R. None. (3-0-21) 5

HUMANITIES

HUM 1300 THE ASCENT OF MAN: This course, based on the Bronowski film series, explores influences of scientific discoveries on humanistic thinking and ultimately on social and cultural evolution. (3-0) 3

HUM 1304 CURRENT DRAMATIC EVENTS: A study of six selected plays to develop understanding of drama as a performing art. The selections will include current performances in the Charlotte-area. Students will have opportunities to discuss these productions with directors, critics, and actors. (3-0) 3

HUM 1314 THE NOVEL: A study of five novels selected from American, British, French, Russian, and Spanish literature, with emphasis on idea, technique, and cultural tradition. (3-0) 3

HUM 1319 MYTHOLOGY: A study of myths and legends, chiefly Greek, Roman, and Norse. Attention to influence of myths on literature, painting, sculpture, and music. (3-0) 3

HUM 1324 SCIENCE FICTION: A study of early and contemporary science fiction. The student will learn to differentiate science fiction from other literary types; to place science fiction in its historical perspective; and to examine the themes and direction of contemporary science fiction, particularly as it involves other disciplines and other media. (3-0) 3

HUM 1500 HUMANITIES I: RENAISSANCE TO PRESENT: A study of our developing culture as revealed in art, literature, music, and philosophy. Students will explore ideas and values dominant during the Renaissance and following centuries to gain perspective for discussing contemporary problems and values. (5-0) 5

HUM 1501 HUMANITIES II: CLASSICAL AND MEDIEVAL: A study of ideas reflected in the art, literature, music, and philosophy of classical and medieval societies. In each selected work, students will recognize aspects that speak particularly to the human condition of the time and other aspects that have endured as timeless pronouncements on humanity. (5-0) 5

HUM 2320 SPECIAL TOPICS: An advanced course in which the students and the instructor select topics for individual study. Conferences for reports and discussion. P.R. approval of the supervising instructor and the head of the department. (3-0) 3

HOSPITAL WARD CLERK

HWC 5400 ORIENTATION TO HOSPITAL WARD CLERK: Upon completion of this course the student should be able to: (1) identify the duties of the Hospital Ward Clerk and other members of health team, (2) discuss the communication skills needed to be a successful member of the health team, (3) explain the structure and function of various areas of the hospital. P.R. None. C.R. HWC 5401 and HWC 5500. (3-2-0) 4

HWC 5401 CLINICAL EXPERIENCE: Upon completion of this course the student should be able to: (1) explain the role of the ward clerk on the health team, (2) put into practice the knowledge and skills that have been learned in the classroom, (3) establish professional and positive relationships with staff and patients. P.R. None. C.R. HWC 5400 and HWC 5500. (0-0-12) 4

HWC 5500 HOSPITAL WARD CLERK MANAGEMENT: Upon completion of this course the student should be able to: (1) demonstrate the basic techniques and skills needed by the hospital ward clerk in the hospital, (2) perform task and procedures in the classroom that will be encountered in the hospital. P.R. None. C. P. HWC 5400 and HWC 5401. (2-6-0) 5

INSURANCE

INS 3340 PRINCIPLES OF RISK AND INSURANCE: Upon successful completion of this course the student will be able to describe the basic concepts of risk including its relationship to probability theory and the law of large numbers, discuss the relationship between risk and insurance, list and discuss the principles of risk management and the role of the risk manager, describe the nature and function of various types of insurance institutions, and discuss the principles of insurance contracts. P.R. None. (3-0) 3

INS 3341 PROPERTY AND CASUALTY INSURANCE: Upon successful completion of this course the student will be able to describe the legal basis of insurance and be able to discuss the significance of insurable interest, material fact and concealment; list the principles and conditions for the following types of insurance: marine insurance, standard fire insurance, inland marine insurance, and worker's compensation and employer's liability insurance; discuss the purpose and intent of comprehensive general liability insurance, automobile insurance and automobile financial laws; describe crime insurance and suretyship; and list and discuss the various multiple line coverages and commercial property forms. P.R. None. (3-0) 3

INS 3342 LIFE AND HEALTH INSURANCE: Upon successful completion of this course the student will be able to describe the principles of life and health insurance, the types and uses of annuities and the uses of life insurance and methods of settlement, differentiate between gross and net premiums, discuss the concept of cash surrender value, analyze and interpret insurance company financial statements, and list the types and categories of health insurance. P.R. None. (3-0) 3

INS 4295 GENERAL INSURANCE — PART I — INTRODUCTION: This is the first course in a series which when successfully completed will waive the licensing exam given by the Department of Insurance for Insurance agents. Upon successful completion of this part the student will be able to identify the types of risk and how to apply the risk management concepts to said risks, discuss the various types of insurance and the functions of insurance companies, and interpret the various laws and regulations affecting the insurance industry. P.R. None. (2-0) 2

INS 4296 GENERAL INSURANCE — PART II — LIFE, ACCIDENT AND HEALTH: A continuation of INS 4295. When successfully completed with INS 4295 this course will waive the licensing exam required to be licensed as a Life, Accident and Health Insurance agent. Upon successful completion of this course, the student will be able to discuss the exposures, types, policy provisions and practices of life, accident and health insurance; interpret the regulations and laws specifically applying to life, health and accident agents; and describe the various social insurance plans. P.R. INS 4295. (2-0) 2

INS 4297 GENERAL INSURANCE — PART III — FIRE AND CASUALTY: A continuation of INS 4295. When successfully completed with INS 4295 this course will waive the licensing exam required to be licensed as a Fire and Casualty Insurance Agent. Upon successful completion of this course the student will be able to discuss and explain the various lines for fire and casualty insurance such as: automobile, marine, inland marine, general liability, worker's compensation, commercial fire, home owner's, crime and umbrellas. Further, the student will be able to explain the functions of government sponsored insurance such as FAIR Plans and BEACH Plans; interpret the regulations and laws specifically applying to fire and casualty agents; and discuss the forms for the various types of insurance. P.R. INS 4295. (2-0) 2

INDUSTRIAL SCIENCE

ISC 4304 PRODUCTION PLANNING: Upon completion of this course the student should be able to: (1) discuss production control functions, types of productions and control types and procedures; (2) forecast and estimate future manpower, material and machinery needs; (3) institute inventory control procedures; (4) prepare schedules utilizing production control boards; and (5) dispatch and keep production moving. P.R. MAT 3504, MEC 3305 or departmental permission. (2-3) 3

ISC 4314 INSPECTION AND QUALITY CONTROL: Upon completion of this course the student should be able to: (1) use non-precision measuring instruments; (2) use precision measuring instruments; (3) use comparison measuring instruments; (4) use gages, gage blocks, surfaces plates and precision angular measuring instruments; (5) use destructive and non-destructive testing methods to find the physical and mechanical properties of engineering materials; and (6) use statistical methods of quality control. P.R. MEC 3305 or departmental permission. (2-3) 3

ISC 4400 TIME AND MOTION STUDY: Upon completion of this course the student should be able to: (1) apply the general problem solving process to work methods design; (2) construct activity charts and human and machine charts; (3) apply the principles of motion economy as related to the use of human body, the work place and to the design of tools and equipment; (4) conduct a time study, determine the rating factor and allowances and develop a time standard; (5) use the MTM method to determine time standards; and (6) conduct work sampling. P.R. None. (2-6) 4

ISC 4404 PLANT LAYOUT AND MATERIALS HANDLING: Upon completion of this course the student should be able to: (1) explain the 3 types of classic layouts; (2) design a plant layout, based on the following: (a) size, physical and chemical characteristics, quantity and variety of parts, products and materials, (b) the nature, size and quantity of machines and equipment, (c) the worker, waiting and service factor, (d) office and employee facilities; (3) select the proper fixed and nonfixed floor or overhead materials handling equipment, to move materials and products efficiently and economically. P.R. DFT 3404 or departmental permission. (2-6) 4

ISC 4405 PROCESS PLANNING: Upon completion of this course the student should be able to: (1) perform a dimensional and tolerance analysis of a product print, using tolerance charts; (2) select and plan the process of manufacture and its sequence; and (3) select the machine tool, standard and special equipment and tooling for the most economical manufacturing process. P.R. MEC 3305, DFT 3405 or departmental permission. (2-6) 4

JOURNALISM

JOU 1300 PRACTICAL JOURNALISM: Upon successful completion of this course, the student should know the ethics of journalism and basic press law with respect to libel and privacy; the student should be able to use the information gathering process to write and edit news and feature stories for print media, analyze the publisher-editor-writer-audience relationship, and state the characteristics and uses of different type faces. (2-3) 3

LANGUAGE

LAN 9190 TEACHING ENGLISH AS A SECOND LANGUAGE: This course is designed to familiarize the student with methods used in the art of teaching English as a language, or any language other than the native one. Upon completion of this course the student should be able to identify, test and properly place students of English as a second language according to their proficiency level. Prerequisite: Must possess teaching certificate, or consent. (1-0) 1

LAN 9201 DRIVER'S EDUCATION (Traffic Signs, Symbols and Regulations): This course is designed to prepare foreign born residents and full time students with vocabulary and interpretive skills necessary to obtain the North Carolina Learner's Permit. Upon completion of this course the student should be able to meet the requirements to obtain such a Permit. Prerequisite: Must possess a valid visa or alien registration card. (2-0) 2

LAN 9301 ENGLISH THROUGH MUSIC: The purpose of this course is to acquaint the non-English student with the standard American pronunciation and to improve expression, intonation and vocabulary, by using music and the International Phonetic Alphabet. Upon completion of the course the student should be able to demonstrate evidence of improved pronunciation and vocabulary, self-confidence and a major cultural adjustment. (3-0) 3

LAN 9304 AMERICAN CITIZENSHIP: This course is designed to prepare foreign legal residents to become American Citizens. Upon completion of this course the student should be able to pass the Citizenship and Naturalization Test, administered by the Immigration and Naturalization Service. (3-0) 3

LAN 9504 CONVERSATIONAL ENGLISH I: This course is designed to provide the non-English speaking person with the basic English language skills to meet essential communication needs, that is to provide the foreign student with survival English. Upon successful completion of this course, the student should be able to ask and answer simple questions using English vocabulary learned in the course. (3-4) 5

LAN 9505 CONVERSATIONAL ENGLISH II: An intermediate level conversation course designed to help foreign born individuals overcome the inhibitions of speaking a foreign language. Upon successful completion of this course, the student should be able to make a 15-20 minute speech on a subject of his/her own choice using correct English grammar and pronunciation. Prerequisite: LAN 9504, or consent. (3-4) 5

LAN 9514 GRAMMAR I: This course is designed to provide foreign born students with the basic parts of speech of the English grammar. Upon successful completion of this course the student should be able to: correctly use common verbs, nouns, and adjectives in oral and written communications; define and distinguish between homonyms and antonyms; demonstrate knowledge of the three forms of sentences; apply correctly the rules of capitalization and punctuation; write simple paragraphs, which demonstrate knowledge of the structure of simple sentences. Prerequisite: LAN 9505 or a score of 40 or above on ESL Placement Test, or consent. (3-4) 5

LAN 9515 GRAMMAR II: This course is designed to increase the basic English grammar skills of foreign students. Upon successful completion of this course, the student should be able to (1) identify and correctly use the principle parts of speech in oral and written communications; (2) distinguish between homophones, homographs and homonyms and (3) interpret American idiomatic expressions giving their English equivalents and vice-versa. Prerequisite: LAN 9514, or score of 31 to 66 or the ESL Test, or consent. (3-4) 5

LAN 9524 SPELLING I: This course is designed to improve the spelling skills of foreign students. Upon successful completion of this course the student should be able to: spell, define and write words used in daily conversations, and incorporate frequently used words into sentences. Prerequisite: Department oral and aural examination. (3-4) 5

LAN 9525 SPELLING II: This course builds upon the elementary skills of LAN 9525. Upon successfully completing this course, the foreign student should be able to: (1) correctly spell troublesome words as well as words peculiar to the student's major area of study; (2) increase skill in appropriate intonation when speaking English; (3) apply essential spelling rules; (4) increase survival skills in their daily lives beyond the campus, through reading exercises which give practice in the purpose and use of such places as banks, stores, theaters, post office and telephones. Prerequisite: LAN 9524, or consent. (3-4) 5

LAN 9534 ACADEMIC ENGLISH I: This course is designed to develop the writing skills of foreign born students by preparing the student for his/her academic program. This course is also intended to prepare the student to take part two of the TOEFL test. Upon successful completion of this course, the student should be able to demonstrate college level mastery of grammatical, writing and reading skills and successfully pass part two of the TOEFL test. Prerequisite: LAN 9525 or a score of 31-66 on the ESL Test, or consent. (3-4) 5

LAN 9535 ACADEMIC ENGLISH II: This course is designed to be an intensive review of oral and written English for the foreign student preparing to take the TOEFL exam. Upon successful completion of this course, the student should be able to achieve a score of at least 500 on the TOEFL exam. Prerequisite: LAN 9534 or a score above 67 on the ESL Test, or consent. (3-4) 5

PARALEGAL

LEX 3300 INTRODUCTION TO PARALEGALISM: This course analyzes the role of the lawyer and the paralegal in modern society. Upon successful completion of this course the student will be able to recognize and discuss the ethical and professional practice standards applicable to both. The student will also be able to identify the skills required to be an asset to the legal community. Further, the student will examine the problems facing persons in this new profession. A major research project is a requirement of this course. (3-0) 3
every quarter

LEX 3310 NORTH CAROLINA LEGAL SYSTEMS: This course examines the roles of state and federal judiciary in North Carolina through use of the United States and North Carolina Constitutions and the various applicable statutes. Upon successful completion of this course, the student will be able to describe and analyze the role of each court sitting in North Carolina. Students will make personal observations of the courts both in Charlotte and Raleigh as part of the lab. (2-2) 3
every quarter

LEX 3320 EVIDENCE: This course is an examination of the principal rules of evidence applicable in civil trials by jury at common law, their history, development, and modern application, together with statutes affecting the field. Upon successful com-

pletion of this course the student will be able to: distinguish between direct and cross examination; explain the methods and limits of impeachment; utilize real and demonstrative evidence; prepare exhibits for introduction; identify proper introduction of opinion evidence; discuss the best evidence rule, presumptions, inferences and burden of proof; recognize hearsay and its exceptions; and explain the importance of saving the record for appeal. (3-0) 3
every quarter

LEX 3404 LEGAL RESEARCH I: This is the first in a series of courses that studies the fundamentals of Legal Research. Upon successful completion of this course the student will be able to do basic legal research by using such legal publications as: U.S.C.A., N.C.G.S., REPORTERS, DIGESTS, WORDS AND PHRASES, ENCYCLOPEDIAS, A.L.R., SHEPARDS, LOOSELEAF SERVICES AND TREATIES. An inter-office memorandum of law must be successfully written by each student. (2-4) 4
fall, winter, spring

LEX 3405 LEGAL RESEARCH II: A continuation of LEX 3404. Upon successful completion of this course the student should be able to read and interpret a court decision, write and use a composite brief, synthesize opinions, and analogize a group of opinions. Successful preparation of a trial brief is required of each student. P.R. LEX 3404. (2-4) 4
every quarter

LEX 3406 LEGAL RESEARCH III: A continuation of LEX 3405. Upon successful completion of this course the student will be able to compare and discuss the rules of the various appellate courts. Students will also be able to identify the more common reasons for appeal. Each student will write a narrative from a trial transcript, and will assist in the organization and writing of an appellant's and an appellee's brief. P.R. LEX 3320 and LEX 3405. (2-4) 4
every quarter

LEX 4300 DOMESTIC RELATIONS LAW: A course which examines the various laws of North Carolina that affect the marriage and family relationships such as statutory grounds for divorce, defenses to divorce actions, elements of separations by court order or by mutual consent, and custody of children. Upon successful completion of this course the student should be able to discuss the various applicable statutes, interview the client and potential witnesses, aid the attorney in the drafting of divorce, custody and support pleadings, separation agreements, consent judgments, court orders and documents for adoption. (3-0) 3
fall, spring

LEX 4321 TORT LAW: A study of the fundamental principles of the law of Torts. Upon successful completion of this course the student should be able to recognize the more common intentional torts as well as negligence from various fact situations, explain the prima facie case for each, and evaluate the defenses available to each. (3-0) 3
fall, winter, spring

LEX 4322 CORPORATE LAW: A study of the laws of North Carolina concerning partnerships and corporations. Upon successful completion of this course the student should be able to explain the basic concepts of corporations as compared to partnerships, joint ventures and sole proprietorships. Further, the student should be able to aid the attorney in the interviewing process of clients, drafting of articles of incorporation, by-laws, minutes, resolutions, stock certificates, partnership agreements, joint venture agreements, and the proper filing of corporate and partnership documents. (3-0) 3
winter, summer

LEX 4331 LAW OFFICE MANAGEMENT: A study of effective organization and management skills in both small and large law offices. Upon successful completion of this course the student will be able to write an office manual as well as procedures manuals. The student will also be able to explain the need for and methods of filing and indexing of legal matters, the methods of opening new matter files, various accounting systems, time keeping systems and professional liability insurance. Further, the student will be able to examine other management problems existing in a law office. (3-0) 3
fall, spring

LEX 4332 TRIAL PREPARATION AND PROCEDURES: An indepth study of legal drafting and the rules of Civil Procedure. The student who successfully completes this course should be able to aid the attorney in the drafting of the various pleadings, motions, orders, interrogatories and affidavits that are the ordinary components of civil actions. Further, the student should be able to aid in the preparation of the file and exhibits for the trial. P.R. LEX 3404. (3-0) 3
winter, summer

LEX 4341 WORKER'S COMPENSATION LAW: A study of the various North Carolina laws concerning worker's compensation claims. Upon successful completion of this course the student should be able to aid the attorney in interviewing and investigation of such claims, collecting and reviewing medical data, settlement negotiations and in preparing such claims for hearings. (3-0) 3
fall, spring

LEX 4351 LAWS OF TAXATION: A study of the various tax laws concerning legal matters most often seen in a law office. Upon successful completion of this course the student should be able to aid the attorney in the gathering of necessary data and completion of such tax forms as are necessary for estates and trusts, incorporation of new businesses and selection of Sub-Chapter S. (3-0) 3
winter, summer

LEX 4361 INTERPRETING MEDICAL REPORTS: This is a self-paced course designed to acquaint the student with the terminology, diagnosis and treatment of physical injuries most often seen in medical reports on personal injury cases. Upon successful completion of this course the student should be able to review and analyze the various medical reports sent to a law office on personal injury cases. (3-0) 3
every quarter

LEX 4410 COLLECTIONS AND BANKRUPTCY: A study of the laws and procedures of handling collections for clients and bankruptcy of clients. The course will study the bankruptcy laws in effect as of October 1, 1979. Upon successful completion of this course the student should be able to develop and set up a collection system within a law office by aiding the attorney in the drafting of the necessary form letters, complaints, liens and notices of sale. Further, the student should be able to interview the client, investigate the situation and complete the bankruptcy package of documents. (3-2) 4
fall, spring

LEX 4420 REAL PROPERTY LAW AND TITLE ABSTRACTING: A course which examines the laws of real property with emphasis on the common types of real estate transactions and conveyances as well as the steps necessary to abstract a title. Upon successful completion of this course the student will be able to identify the various estates in real property; abstract a title; aid the attorney in the drafting of deeds, deeds of trusts, mortgages and other various documents necessary to real property transactions and closing statements; and aid the attorney in completion of loan packages. Preparation of an abstract of title is a requirement of the course. (3-2) 4
winter, summer

LEX 4430 WILLS, TRUSTS AND PROBATE: A study of the laws and procedures concerning distribution of property by trusts, wills and intestacy. Upon successful completion of this course the student will be able to interview clients, use a wills manual, and aid the attorney in the drafting of wills and trusts, as well as completion of the various documents necessary to administer an estate. P.R. LEX 3404. (3-2) 4
fall, spring

LEX 4431 INTERVIEW AND INVESTIGATION: A training course in various techniques of interviewing both clients and witnesses. Upon successful completion of this course the student should be able to obtain medical records, official records and documents for preparation of client matters; research and design interview sheets and checklists for various legal matters; and design in-house files for various legal matters. Students will develop interview sheets and will role play various interview situations as part of this class. P.R. LEX 3404. (3-2) 4
fall, winter, spring

LEX 4600 PARALEGAL INTERNSHIP: An intensive program available to selected students who have completed at least 80 hours in the Paralegal Program. Students should be able to apply paralegal skills appropriate to their internship position. Application should be made to the program director at least one month prior to registration. P.R. 80 hours in the Paralegal Program. (1-15) 6
every quarter

LITERATURE

LIT 2314 CONTEMPORARY LITERATURE: Study of twentieth-century fiction, with emphasis on the short story and the novel in American and British literature. P.R. COM 1306 or consent. (3-0) 3

LIT 2320 SPECIAL TOPICS: An advanced course in which the student may pursue topics of interest not covered by other courses in the department. Independent research, written reports, and discussion, varying with the individual student and the particular topics. P.R. approval of the supervising instructor and the head of the department. (3-0) 3

LIT 2324 THE BIBLE AS LITERATURE: Study of selections that approximate established genres of saga, chronicle, lyric poetry, oratory, short story, biography. Emphasis on Judeo-Christian ideas influencing western literature. P.R. COM 1306 or consent. (3-0) 3

LIT 2504 BRITISH LITERATURE I: Selected works of British writers before 1800, with emphasis on Chaucer, Shakespeare, and Milton. P.R. COM 1306 or consent. (5-0) 5

LIT 2505 BRITISH LITERATURE II: Selected works of British writers since 1800, including Wordsworth, Coleridge, Byron, Shelley, and Keats from the Romantic period; Browning and Tennyson from the Victorian period; Eliot and Yeats from the Modern period. P.R. COM 1306 or consent. (5-0) 5

LIT 2514 AMERICAN LITERATURE I: Selected works of American writers before 1900, including Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, Dickinson, Twain. P.R. COM 1306 or consent. (5-0) 5

LIT 2515 AMERICAN LITERATURE II: Selected works of the twentieth-century writers, including Crane, James, Robinson, Frost, O'Neill, Anderson, Dreiser, Hemingway, Wolfe, and Faulkner, with emphasis on their interpretation of the modern era. P.R. COM 1306 or consent. (5-0) 5

LIT 2534 WORLD LITERATURE: A study of representative writers, such as Boccaccio, Machiavelli, Rabelais, Cervantes, Rousseau, Goethe, Ibsen, and Tolstoy. Emphasis on ideas and values prevalent in different periods and cultures. P.R. COM 1306 or consent. (5-0) 5

LEARNING LAB

LLB 9200 CLASSROOM SURVIVAL: Upon completion of this course the student should be able to: (1) explain the use of the college publications, the procedures for registration and for obtaining the benefits of the resources available on the campus; (2) demonstrate techniques of effective study habits including skills in planning time management, listening and taking notes, studying textbooks and remembering the material, planning for and taking exams. P.R. None. (0-3) 2

MACHINIST

MAC 5200 PRECISION INSTRUMENT READING: Upon completion of this course the student will be able to: (1) solve problems related to the machinists' field involving fractions and decimals; (2) read basic 3-view projections; (3) properly care for, read, and use the following precision measuring instruments: steel rule, vernier caliper, vernier height gage, micrometer, dial indicator, gage blocks and fixed gages. P.R. None. (2-0) 2

MAC 5201 MACHINE SHOP PRACTICES: Upon completion of this course the student should be able to: (1) identify and use the basic hand tools and measuring instruments associated with the metal working trades; (2) perform basic operations using a drill press, lathe, milling machine and grinding machine; (3) describe and use all appropriate safety procedures. P.R. None. (1-3) 2

MAC 5300 INTRODUCTION TO NUMERICAL CONTROL PROGRAMMING: Upon completion of this course the student should be able to: (1) demonstrate a basic knowledge of numerical control programming; (2) code and punch numerical control tape; (3) demonstrate an understanding of numerical control dimensioning and positioning for point to point operations; (4) write a sequential manuscript for two axis drilling; (5) write a work address manuscript for three axis random and sequential tool selectors. P.R. None. (3-0) 3

MAC 5307 MACHINE TOOL APPLICATION I: Upon completion of this course the student will have completed assigned projects using skills learned in pre-requisite courses including the following: (1) planning work for correct machining and ease of operation; (2) using machine tools and hand tools in a proper and safe manner; (3) using proper work habits. P.R. MAC 5311, MAC 5422, MAC 5313, MAC 5424. (0-9) 3

MAC 5308 MACHINE TOOL APPLICATION II: (A continuation of MAC 5307.) Upon completion of this course the student will have: (1) reinforced and developed additional manipulative skills related to the machine tool trade by producing assigned projects; (2) specialized in one of the four major areas of machine tool operations. P.R. or C.R. MAC 5307. (0-9) 3

MAC 5311 BASIC LATHE OPERATIONS: Upon completion of this course the student should be able to: (1) select the proper speeds and feeds for assigned projects; (2) use proper work holding devices; (3) select proper lathe tools; (4) perform operations with prescribed accuracy for straight turning, knurling, threading (external), boring and tapering; (5) use safe and proper techniques in all procedures. P.R. None. C.R. MAC 5200. (1-6) 3

MAC 5313 LAYOUT, HAND TOOL, AND DRILL PRESS PROCEDURES: Upon completion of this course the student should be

able to: (1) properly use hand tools normally used in machine shop work; (2) use layout tools with prescribed accuracy; (3) operate the drill press to drill, ream, countersink, counterbore, machine top, layout and drill multiple holes. P.R. None. C.R. MAC 5200. (1-6) 3

MAC 5315 GENERAL MACHINING AND MAINTENANCE: Upon completion of this course the student should be able to: (1) repair broken and/or worn machine parts; (2) perform maintenance procedures; (3) produce typical machine parts; and (4) complete industrial grade projects. P.R. MAC 5311, MAC 5313, MAC 5422, MAC 5424. (1-6) 3

MAC 5422 BASIC MILLING OPERATIONS: Upon completion of this course the student should be able to: (1) demonstrate skill in cutter, speed and feed selections; (2) demonstrate proper and safe techniques with prescribed accuracy in face milling, shoulder milling, fly cutting and horizontal plain milling. P.R. None. C.R. MAC 5200. (2-6) 4

MAC 5424 GRINDING MACHINE OPERATIONS: Upon completion of this course the student should be able to: (1) demonstrate a thorough understanding of grinding machine theory and practice; (2) make proper abrasive selections; (3) select appropriate speeds; (4) demonstrate proper and safe techniques in operating with prescribed accuracy the horizontal surface grinder, cylindrical grinder and the tool and cutter grinder. P.R. MAC 5311, MAC 5422. (2-6) 4

MAC 5426 PRODUCTION MACHINE TECHNIQUES: Upon completion of this course the student should be able to: (1) plan methods of production for a given part; (2) write and/or use process sheets; (3) utilize innovative techniques for machine tool set-up; (4) remove metal to specifications using a turret lathe, contour band saw, horizontal milling machine; (5) demonstrate in writing an in-depth knowledge of production metal removal. P.R. MAC 5311 and MAC 5422. (2-6) 4

MATHEMATICS

MAT 1504 COLLEGE ALGEBRA I: The first of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. The student will apply set operations; state and apply the field properties; solve first degree equations and systems of equations with two and three variables; add, subtract, multiply, and divide polynomials and rational expressions; factor; state and apply rules of exponents — both integral and fractional; define and recognize relations and functions and draw their graphs; graph quadratic functions — the parabola and circle; simplify radicals; state and apply the properties of ratio and proportion; variation; solve word problems. (Not applicable to mathematics, engineering, or science majors.) Credit not given to students already having credit for MAT 1514. P.R. Placement examination or MAT 9510 or consent of the department head. (5-0) 5

MAT 1505 COLLEGE ALGEBRA II: The second of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. The student will solve second degree equations in one variable; solve radical equations; solve systems involving quadratic equations; solve systems of inequalities; define a complex number and perform the four fundamental operations on complex numbers; use matrices and determinants to solve systems of equations; find inverses of functions; find permutations and combinations; determine probabilities; use the binomial theorem to expand a binomial; solve word problems; use logarithms. (Not applicable to mathematics, engineering, or science majors.) Credit not given to students already having credit for MAT 1514. P.R. MAT 1504 or consent of the department head. (5-0) 5

MAT 1514 PRECALCULUS MATHEMATICS I: The first of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. The student will state and use the basic properties of the real number system; add, subtract, multiply and divide algebraic expressions; factor; expand using the Binomial Theorem; solve first and second degree equations; define, graph, and apply relations and functions; use straight lines and linear functions; solve polynomial equations of higher degree; solve systems of equations using algebraic, graphic, and matrix methods. P.R. Placement examination or MAT 1504 or consent of the department head. C.R. MAT 9511 or high school geometry or consent of the department head. (5-0) 5

MAT 1515 PRECALCULUS MATHEMATICS II: The second of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. The student will solve linear and non linear inequalities; define, graph, and apply exponential and logarithmic functions; define and apply trigonometric and circular functions; state and apply the addition and multiple angle formulas; prove identities; solve trigonometric equations; graph using symmetry, intercepts, asymptotes and excluded regions; state and apply the properties of the conic sections. P.R. MAT 1514 or consent of the department head. (5-0) 5

MAT 1516 INTRODUCTORY CALCULUS: This is a brief treatment of the calculus for non-mathematics or non-engineering majors. The student will review functions and relations. The student will be able to find limits; determine if a function is continuous; find derivatives of algebraic expressions by the definition; find derivatives by using differentiation techniques; differentiate implicitly; find higher order derivatives; apply the derivative to find relative and absolute extrema; determine concavity and points of inflection; find differentials; evaluate definite and indefinite integrals; find areas by integration; differentiate and integrate exponential and logarithmic functions. P.R. MAT 1505 or MAT 1514 or consent of the department head. (5-0) 5

MAT 1524 ANALYTIC GEOMETRY AND CALCULUS I: The first of a four course unified sequence of calculus. (This course is recommended for students in engineering, mathematics, the physical sciences, and students who need more than an introduction to calculus.) The student will review inequalities, absolute value, sets, relations, functions and graphs. The student will solve analytic geometry problems of the straight line; find limits and derivatives by definition; determine continuity; differentiate algebraic functions; differentiate implicitly; apply the derivative to find extrema, increasing and decreasing intervals, and concavity; and solve related rate problems. P.R. MAT 1515 or consent of the department head. (5-0) 5

MAT 2504 ANALYTIC GEOMETRY AND CALCULUS II: The second of a four course sequence. The student will evaluate definite and indefinite integrals; change variables; find areas, work and fluid pressure, center of mass, and length of plane curve; differentiate and integrate logarithmic, exponential, and trigonometric functions. P.R. MAT 1524 or consent of department head. (5-0) 5

MAT 2505 ANALYTIC GEOMETRY AND CALCULUS III: The third of a four course sequence. The student will study hyperbolic and inverse hyperbolic functions; find the derivative and integral of hyperbolic and inverse hyperbolic functions; integrate by parts, trigonometric substitution, partial fractions; integration of rational functions of sine and cosine; integration by various miscellaneous substitutions; approximate integrals by trapezoid and Simpson's rule; use polar coordinates in graphing; find derivatives and integrals using polar coordinates; solve analytic geometry problems of the conic sections; translate and rotate axes; use L'Hopital's rule to evaluate indeterminate forms; evaluate improper integrals; find Taylor's series; determine the convergence of series; find power series; find interval of convergence and differentiate and integrate series. P.R. MAT 2504 or consent of department head. (5-0) 5

MAT 2506 ANALYTIC GEOMETRY AND CALCULUS IV: The last of a four course sequence. The student will perform operations on vectors in two and three dimensions; find derivatives and integrals of vector-valued functions in two and three dimensions; find velocity, acceleration; determine domain, continuity and differentiability of functions of more than one variable; find partial derivatives, total derivatives, higher order partial derivatives, directional derivatives, gradients; evaluate and apply partial derivatives and line integrals; evaluate and apply multiple integrals including double integral, iterated integrals, center of mass, double integral in polar coordinates, area of a surface, and the triple integral. P.R. MAT 2505 or consent of department head. (5-0) 5

MAT 2508 INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS: An introduction to the study of differential equations. Upon completion of this course students will be able to solve ordinary differential equations by the standard methods of solution. This includes the methods of first-order differential equations, approximation, numerical, linear, and Laplace. In addition, the student will demonstrate an understanding of the general theory of ordinary differential equations and model theory by a written solution of suitable problematic situations. (Usually offered in Spring Quarter.) P.R. MAT 2506 or consent of the department head. (5-0) 5

MAT 2514 STATISTICS I: The student will organize, analyze, and interpret statistical data; calculate measures of central tendency and dispersion; state and apply basic probability laws; draw statistical inferences using random sampling and the binomial, and normal distributions; test hypotheses; find sample sizes and confidence intervals; and use index numbers. P.R. MAT 1504 or MAT 3504 or consent of the department head. (5-0) 5

MAT 2515 STATISTICS II: A continuation of Statistics I. The student will draw statistical inferences using Student's T, chi-square, and F distributions; design experiments; use analysis of variance, and linear regression; evaluate the correlation coefficient; use non-parametric methods including the sign test, the Mann-Whitney U test and the Runs test. Students will select and prepare on individual project. P.R. MAT 2514 or consent of the department head. (5-0) 5

MAT 2590 INDIVIDUAL STUDY: This course will provide the student with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Mathematics Department. Each student or group of students works under the supervision of a member of the Mathematics Department. P.R. Approval of the sponsoring instructor and the department head. (5-0) 5

MAT 3500 MATHEMATICS FOR FIREMEN: A technical mathematics course designed to meet the needs of the Fire Science Program. The student will perform basic arithmetic operations on whole numbers, fractions, and decimals; perform basic algebraic operations on real numbers and polynomials; find areas and volumes; solve linear equations; solve problems using ratio and proportion; and find powers and roots. (5-0) 5

MAT 3501 MATHEMATICS FOR PUBLIC SAFETY: A technical mathematics course designed to meet the needs of the Public Safety Program. The student will perform the basic operations of arithmetic on whole numbers, fractions, and decimals; find percentages and averages; develop and interpret statistical graphs; use the Metric System; solve equations; set up and apply ratio and proportion; use consumer mathematics. (5-0) 5

MAT 3504 TECHNICAL MATHEMATICS I: The student will convert units of measurement from the English system to the metric system and conversely; perform the basic operations on algebraic expressions; factor algebraic expressions; define and recognize a function; graph; solve systems of equations algebraically; define and use trigonometric functions; find trigonometric functions of any angle; find vector sums and differences; and apply radians to problem solving. P.R. Placement examination or MAT 9510, or consent of department head. C.R. High school credit in geometry or MAT 9511. (Data processing students do not need this geometry corequisite.) (5-0) 5

MAT 3505 TECHNICAL MATHEMATICS II: A continuation of MAT 3504. The student will solve systems of equations by determinants; perform operations on advanced algebraic expressions; add, subtract, multiply and divide complex numbers; apply fundamental laws of logarithms; identify and solve plane analytic geometry problems related to the straight line, circle, parabola, ellipse and hyperbola. P.R. MAT 3504 or consent of department head. (5-0) 5

MAT 3506 TECHNICAL MATHEMATICS III: The student will solve inequalities graphically and algebraically; prove trigonometric identities; solve trigonometric equations; evaluate inverse trigonometric functions; use polar coordinates; find limits; find and apply derivatives; find definite integrals; find differentials; and use approximation methods to evaluate definite integrals. P.R. MAT 3505 or consent of department head. (5-0) 5

MAT 4507 TECHNICAL MATHEMATICS IV: A continuation of MAT 3506. The student will use calculus to find area, volume, center of mass, and work; differentiate and integrate trigonometric, inverse trigonometric, logarithmic, and exponential functions; find integrals by using basic techniques of integration; and use MacLaurin, Taylor's, and Fourier series for expansion of functions. P.R. MAT 3506 or consent of department head. (5-0) 5

MAT 5304 SHOP MATHEMATICS I: The student will perform the basic arithmetic operations of addition, subtraction, multiplication, and division of whole, mixed, decimal and fractional numbers; find ratios; and determine percentage. (3-0) 3

MAT 5305 SHOP MATHEMATICS II: The student will perform the basic operations with signed numbers; manipulate formulas; find square roots; find ratios; find area and volume; and construct geometric figures. P.R. MAT 5304 or consent of department head. (3-0) 3

MAT 9500 ARITHMETIC: An individualized self-paced course designed to meet the needs of any student who is lacking in basic mathematics. Upon completion of MAT 9500, students should be able to perform arithmetic operations on whole numbers, fractions and decimals. They will be able to solve problems relating to percents, metric measurement, and graphs. (0-10) 5

MAT 9502 ALGEBRA I: An individualized, self-paced course designed to meet the needs of any student who has not mastered elementary algebra or who needs to review algebra. Upon completion of MAT 9502, the student should be able to solve problems relating to the language and symbolism of algebra, elementary set theory, algebraic properties of the real number, solution of first degree equations, graphs of linear equations, solution of systems of linear equations by graphic and algebraic methods, factoring polynomial expressions, solution of quadratic equations. (0-10) 5

MAT 9510 DEVELOPMENTAL ALGEBRA: A course designed for students whose algebraic background is limited to the equivalent of H.S. Algebra I or for those who need to review algebra before entering college or technical mathematics. The course is now offered in two ways, as indicated on the quarter schedule: as an individualized, self-paced course or as an instructor taught (lecture) course. Upon completion of MAT 9510 the student should be able to solve equations and inequalities of first degree; solve systems of two first degree equations algebraically and graphically; graph first degree inequalities in two variables; factor quadratics; simplify radicals and exponents; and solve equations involving rational expressions, radicals, or complex numbers. The student can use this course for an equivalent of H. S. Algebra II for transcript purposes, enter MAT 3504 if he is in the technical area, or enter MAT 1504 if he is in the college transfer area. (5-0) 5

MAT 9511 MODERN GEOMETRY: A lecture-discussion class for the study of plane geometry, emphasizing practical applications. A visual geometric approach stresses applications to everyday life. This course is designed for students who need a review or for those who have not completed high school geometry. Upon completion of MAT 9511 students should be able to solve problems relating to congruency, similarity, special right triangles, areas and volumes. Co-requisite for MAT 1514 and MAT 3504. May be taken concurrently with MAT 9502, MAT 9510, MAT 1504, MAT 3504 or MAT 1514. (5-0) 5

MECHANICAL

MEC 3304 MACHINE PROCESSES I: Upon completion of this course the student should be able to: (1) use nonprecision and precision linear and angular measuring instruments; (2) explain the construction and field of application of the following machine tools: engine lathe, upright drill press, radial drill press, horizontal & vertical milling machine, surface and cylindrical grinders; and (3) perform simple machine operations on the above machines. P.R. None. (2-3) 3

MEC 3305 MACHINE PROCESSES II: Upon completion of this course the student should be able to: (1) use the following measuring devices: Sine Bar, Precision Gage Blocks, Optical Flat and Electric Comparator; (2) explain the construction and identify the principal field of application of the following machine tools: Turret Lathes, Automatic Cycle Lathes, Special Drilling, Boring and Milling Machines and Centerless Grinders; (3) to identify the field of application of the following recently developed techniques in metal working, such as: Chemical Milling, Electrical Discharge Machining, Electrochemical Milling and Numerical Control Machining. P.R. MEC 3304 or departmental permission. (2-3) 3

MEC 4304 COMPOUND ANGLES: This course is a special study of solid geometric figures, which involves the relations of angles and sides of triangles that lie in different planes. Upon successful completion of this course the student should be able to: (1) recognize and solve problems pertaining to the five basic types of solids; and (2) recognize and solve problems related to angular hole boring, form cutting, grinding, machining of jig and fixture parts and tools and dies on angle plates. P.R. MAT 3505. (2-3) 3

MEC 4324 THERMODYNAMICS: Upon completion of this course the student should be able to: (1) state the three laws of thermodynamics; (2) define the technical terms which are commonly used in discussing thermodynamics; (3) write in both word form, and algebraic form the general energy equation; (4) use these equations to solve problems which are commonly encountered in thermodynamics. P.R. PHY 1405, MAT 3505 or departmental permission. (2-3) 3

MEC 4404 DIE DESIGN: Upon completion of this course the student should be able to: (1) calculate on the basis of theory and empirical data the forces required and therefore the size press required for the three main processes of pressworking sheet metal, namely shearing, forming and drawing; and (2) design and draw largely with the use of manufacturers catalogs, the die sets necessary to manufacture sheet metal items by pressworking methods. P.R. DFT 3405, MEC 4415, CIV 3524 or departmental permission. (2-6) 4

MEC 4405 MECHANISMS: Upon completion of this course the student should be able to: (1) solve by graphical methods, and check by analytical methods, problems concerning the motion of machine elements; including the displacement, velocity and acceleration of points and lines within these elements; and (2) design the motion scheme part of Machine Design by graphical methods for cams, belts, pulleys, gears and linkages. P.R. DFT 3405, MEC 4508. (2-6) 4

MEC 4414 PHYSICAL METALLURGY I: Upon completion of this course the student should be able to: (1) explain the basic properties of metals and alloys; (2) discuss the structure of metals and alloys; (3) explain atomic structure; (4) discuss nuclear structure and nuclear reactions; (5) explain solid (crystalline) structure; (6) describe methods of designing crystal planes; (7) explain liquid and vapor phases, phase diagrams, and alloy system; (8) do simple metal hardness tests; (9) make and explain a stress-strain curve for tension test, and (10) mount, polish, and make a photomicrograph of a metal sample. P.R. None. (3-3) 4

MEC 4415 PHYSICAL METALLURGY II: Upon completion of this course the student should be able to: (1) explain the properties of the ferrous metal alloys; (2) discuss the diffusion of carbon in case carburizing; (3) explain the recovery of recrystallization, and grain growth of plain carbon and alloy steels; (4) show the effect of time on tempering; (5) demonstrate that thickness is a factor in the heat treating of an object; (6) explain the importance of a quenching medium in hardening an alloy steel; (7) discuss the mechanics of austempering and martempering; and (8) explain the use of powders to make alloys. P.R. MEC 4414. (3-3) 4

MEC 4434 HYDRAULICS AND PNEUMATICS: Upon successful completion of this course, the student should be able to do the following: (1) perform certain computations related to hydrostatics, hydrodynamics, and the general gas law; (2) draw hydraulic symbols; (3) make sketches of and explain how the following hydraulic and pneumatic system components work; fluid power pumps and motors, hydraulic cylinders and rams, fluid reservoirs, plumbing and related components, pressure, flow and directional control valves; (4) design and troubleshoot simple hydraulic circuits. P.R. PHY 1405 or departmental permission. (2-6) 4

MEC 4508 APPLIED MECHANICS: Upon successful completion of this course the student should be able to do the following: (1) solve problems pertaining to force systems; (2) calculate the location of centroids and centers of gravity; (3) draw free-body diagrams; (4) analyze forces in simple trusses and frames; (5) calculate friction; (6) compute the moment of inertia of areas and bodies; (7) construct shear and moment diagrams; (8) solve problems related to the kinetics of particles and rigid bodies; (9) apply the laws of force and motion; and (10) perform calculations related to work energy, and power. P.R. PHY 1405, MAT 3505. (3-6) 5

MEC 4604 MACHINE DESIGN: Upon completion of this course the student should be able to: (1) design machine parts on the basis of the function of the part and strength of material calculations; (2) select machine parts for a particular machine function by use of manufacturers catalogs, manuals, and periodicals. P.R. CIV 3524, MEC 4415, DFT 3406. (3-6) 6

MEC 4__94 INDEPENDENT STUDY: This course is designed to provide students with the opportunity to develop special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. P.R. None. (1-5 Credits)

MEC 5214 HEAT TREATMENT OF METALS I: The student upon completion of this course should be able to: (1) do hardness tests on metals; (2) make and explain a stress-strain diagram for metals; (3) mount, polish, and produce a photo-micrograph of a metal sample; (4) explain the chemical metallurgy involved in the refining of metals such as copper, aluminum, and magnesium; (5) discuss the various alloys of these metals; (6) identify the alloys which can be age hardened; (7) name alloys that have to be work hardened; and (8) explain phase diagrams of various alloys. P.R. PHY 5304. (1-3) 2

MEC 5215 HEAT TREATMENT OF METALS II: Upon completion of this course the student should be able to: (1) explain the refining of iron from its ores in a blast furnace; (2) discuss the reduction of pig iron in an open hearth, Bessemer converter or electric furnace; (3) discuss the alloying of carbon to form steels; (4) describe the alloying of other elements to increase hard-

ness, strength, and corrosion resistance; (5) explain the heat treating of these steels; and (6) discuss the uses of powder to form alloys that are difficult to make. P.R. MEC 5214. (1-3) 2

MEDICAL OFFICE ASSISTING

MED 3300 DRUG THERAPY: At the completion of the course the student should be able to: (1) identify major drugs and/or drug groups; (2) recognize side effects; (3) describe interaction of drugs; (4) relate various methods of administration of drugs to reactions. P.R. None. (3-0-0) 3

MED 3304 MEDICAL TERMINOLOGY AND VOCABULARY I: Upon completion of this course the student should be able to: (1) read and understand medical terms; (2) build medical terms from Greek and Latin prefixes, suffixes, word roots and combining forms; (3) spell medical terms correctly; (4) intelligently use a medical dictionary; (5) use appropriate abbreviations and symbols. P.R. None. (3-0-0) 3

MED 3305 MEDICAL TERMINOLOGY AND VOCABULARY II: Upon completion of this course the student should be able to: (1) pronounce and spell correctly certain medical terms; (2) define medical terms as they pertain to anatomy, physiology and diseases, operations, tumors, drugs and related descriptive terms; (3) demonstrate ability to build medical words and analyze word components. The above objectives will apply to the following systems: (a) skin and breast; (b) musculoskeletal; (c) cardiovascular; (d) blood and blood forming organs; (e) respiratory; (f) systemic diseases. P.R. MED 3304. (3-0-0) 3

MED 3306 MEDICAL TERMINOLOGY AND VOCABULARY III: A continuation of MED 3305 with the objectives applying to the following systems: (a) neurological and psychiatric; (b) urogenital; (c) gynecological and obstetrics; (d) endocrine; (e) sense; (f) digestive. P.R. MED 3304. (3-0-0) 3

MED 3315 MEDICAL OFFICE ADMINISTRATION II: Upon successful completion of this course the student should be able to perform such duties as: (1) handling mail and telegrams; (2) making travel arrangements; (3) purchasing supplies; (4) maintaining office records; (5) handling insurance information; (6) assume responsibility of telephone. P.R. MED 3404, MED 3400. (3-0-0) 3

MED 3400 MEDICAL OFFICE ADMINISTRATION I: In this course the student will be introduced to material that is routinely transcribed in a medical office. Upon completion of this course the student should be able to transcribe given medical material accurately. P.R. MED 3304, SEC 3404. (2-4-0) 4

MED 3404 MEDICAL ECONOMICS: Upon completion of this course the student will be able to: (1) keep a single entry set of books; (2) maintain a checking account; (3) follow an efficient billing schedule; (4) compose effective collection letters; (5) apply rules for telephone request for payment; (6) handle special collection problems; (7) explain medical fees and assist patients in planning financing of medical care. P.R. Pre-entrance Testing. (3-2-0) 4

MED 4302 MEDICAL ETHICS AND LAW: Upon completion of this course the student should be able to: (1) describe the laws that govern the practice of medicine; (2) differentiate between the various medical practice arrangements and their legal implications; (3) describe each medical service available to the public in the community and the way each contributes to comprehensive care; (4) explain the meaning of the A.M.A. Principles of Medical Ethics and discuss how each applies to the physician and the staff; (5) list the Supreme Court decisions in which the Medical Profession is directly involved. P.R. None. (3-0-0) 3

MED 5304 ORIENTATION TO HEALTH CAREERS: Upon completion of this course the student should be able to: (1) identify the important historical contributions to modern medicine; (2) list the major allied health professions and qualifications and duties of each; (3) evaluate emotional maturity and personality characteristics necessary for a successful health worker; (4) set realistic goals based on results of their Cognitive Map Profile, interest testing, career exploration and qualifications. P.R. Pre-entrance testing. (3-0-0) 3

MED 5390 INDIVIDUAL STUDY: Provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. P.R. Approval of the sponsor and department head. (3-0-0) 3

MED 5414 MEDICAL OFFICE ASSISTING SEMINAR: This is a study of the personal and vocational responsibilities of a practitioner in the field of Medical Office Assisting. Upon completion of the course the student should be able to: (1) identify problems that may arise when working as a Medical Assistant; (2) suggest ways to solve these problems in a manner keeping with the professional Medical Office Assistant; (3) show increased knowledge of basic procedures and understanding of medical practice by reviewing and sharing oral reports; (4) demonstrate competence in CPR. P.R. Fourth Quarter Standing. C.R. MED 5807. (4-0-0) 4

MED 5514 and MED 5615 due to late approval can be found on page 147.

MED 5614 LABORATORY PROCEDURES: Upon completion of this course the student should be able to: (1) site the laboratory rules of safety; (2) handle the equipment and reagents in a safe responsible manner; (3) identify the equipment, glassware and supplies by sight and use; (4) demonstrate the basic knowledge of the simple laboratory tests done in a physician's office by performing the test with accuracy, speed, personal integrity and complete honesty. P.R. Completion of First Two Quarters. C.R. MED 5704. (3-6-0) 6

MED 5704 EXAMINATION ROOM PROCEDURES: Upon completion of this course the student should be able to: (1) maintain a physician's office in regards to the housekeeping, ordering supplies, keeping equipment in good repair and carrying out medical asepsis; (2) assist the physician with physical examinations and minor surgery; (3) perform and assist with certain diagnostic procedures; (4) administer medications by the methods commonly used by the medical assistant in the physician's office. P.R. Completion of First Two Quarters. C.R. MED 5614. (3-8-0) 7

MED 5807 MEDICAL OFFICE PRACTICE: This course is a practicum in Medical Office Assisting. The student is assigned to a physician's office, clinic or out-patient department. Upon completion of this course the student should be able to: (1) perform the duties of the medical assistant as they apply to the assigned office; (2) demonstrate professional and communication skills necessary for the effective care of the patient; (3) express an understanding of the practice of comprehensive health care in the community. P.R. Fourth Quarter Standing. C.R. MED 5414. (0-0-24) 8

MANAGEMENT

MGT 2314 PRINCIPLES OF MANAGEMENT: An introductory course in business management principles. Upon successful completion of the course the student should be able to describe the functions of managers, define management planning, recognize sound business objectives, illustrate organizational charts, design a staffing program, explain and apply leadership and decision-making to business cases, and identify control measures useful to business operations. P.R. BUS 1400. (3-0) 3

MGT 3303 SMALL BUSINESS MANAGEMENT: A course designed for those who may want to start and operate their own business as well as those who are already business owners but wish to strengthen their entrepreneurial and management skills. Upon successful completion of the course the student should be able to assess the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; explain the techniques and principles of planning, organizing, directing and controlling the operating venture; and explain the methods of operating the three basic types of small businesses — retail stores, service businesses and small manufacturing plants. P.R. None. (3-0) 3

MGT 3331 PREPARING WOMEN AS MANAGERS: A course which examines, in depth, the role of women as business managers. Upon successful completion of the course the student should be able to recognize the basic management functions; demonstrate an understanding of the effect of socialization of women on their management performance; demonstrate decision making abilities; implement listening, verbal and non-verbal communications techniques; apply time management skills; delineate current EEO laws affecting women in business and employ specific career strategies toward career goal attainment. P.R. None. (3-0) 3

MGT 3332 CAREER PLANNING FOR BUSINESS WOMEN: A course designed to allow the student to experience a sequential career planning process. Upon successful completion of the course the student should be able to conduct a skill evaluation and interest survey, employ market research, develop decision-making and career attainment procedures, analyze career and family relationships, appraise life changes, dramatize job interview and contract negotiation situations, and review the concepts of professionalism and advancement strategies. EEO concepts will be integrated into learning activities. P.R. None. (3-0) 3

MGT 4330 SUPERVISION: An introductory course in application of management principles and concepts to first-line supervisory positions. Upon successful completion of the course the student should be able to identify the position of the supervisor in the management structure, discuss the unique interpersonal relations required of the supervisor, identify manpower management techniques, explain the concept of job analysis and evaluation, describe supervisory leadership techniques for various job groups and evaluate the supervisor's role in labor relations. P.R. None. (3-0) 3

MGT 4331 ADMINISTRATIVE OFFICE MANAGEMENT: A course applying the principles and techniques of management of the flow of information within an enterprise. Upon successful completion of the course the student should be able to explain the application of principles of management to office organization, design an office layout, describe the psychophysiological factors in office design, analyze the lease-buy decision on equipment and facilities and design a basic word-processing system. P.R. None. (3-0) 3

MGT 4332 PERSONNEL MANAGEMENT I: An introductory course in the field of human resources management. Upon successful completion of the course the student should be able to describe the application of management principles to human resources, describe the history of personnel management, list and describe sources used in internal and external recruiting, design a personnel selection procedure, formulate employee and management development plans and identify systems used for employee performance evaluation. P.R. None. (3-0) 3

MGT 4333 PRODUCTION, PLANNING, AND CONTROL: A course providing a survey of the planning, function and control of the production process in a manufacturing organization. Upon successful completion of the course the student should be able to recognize and explain the underlying principles of production management, identify and illustrate the planning concepts used in a production system, demonstrate the scheduling of machine and personnel assets, explain the process of inventory control, and outline the procedures used in quality control. P.R. None. (3-0) 3

MGT 4334 MANAGEMENT SEMINAR: A course for advanced management students to expand knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to practical situations through the techniques of lecture, case study, role playing and critical incident analysis. Upon successful completion of the course the student should be able to demonstrate improved deductive and decision making capabilities through solution of case problems, identify a logical problem solving technique, extract the critical incidents in a problem situation bearing on managerial success and develop a conceptual base for organization-wide problem solving and analysis. P.R. MGT 2314, MGT 4330, MGT 4331, MGT 4332 or consent of Department Head. (3-0) 3

MGT 4337 PERSONNEL MANAGEMENT II: A course providing a continuation of the study of basic personnel management practices. Upon successful completion of the course the student should be able to define the factors in organizational climate, identify the channels of management communications, review the concept of managerial leadership, interpret the importance of labor relations in human resources management, design a basic wage and salary plan, outline a basic security and benefit system, and identify the role played by EEO, safety and health and financial incentive plans in personnel management. P.R. BUS 4332. (3-0) 3

MGT 5200 SHOP MANAGEMENT: A course designed to introduce the trade student to the business world and to the operation of a small business. Upon successful completion of the course the student should be able to describe the importance of the small shop in the economic system, identify problems in small business operations, assemble a set of guidelines for starting a small shop, recognize the importance of business law and the maintenance of business forms and records and gain an appreciation for the role of location, taxes, inventory, advertising and employee relations in the success of a small shop. P.R. None. (2-0) 2

MARKETING

MKT 3320 FUNDAMENTALS OF SELLING: This course is designed to provide the student, with a general survey of the various careers in selling and provide a thorough study of the selling process from the preparation to the closing of the sale. Upon successful completion the student will be able to collect proper data and prepare personally and business-wise for a sales interview, conduct a successful sales interview which will include the approach, presentation, demonstration, meeting objections and close, instill confidence and trust in the prospect by exhibiting confidence as a result of this proper preparation and the effective sales interview. P.R. None, but SPH 1300 is recommended. (3-0) 3

MKT 3324 MARKETING: Upon successful completion of this course the student should be able to define marketing; define the marketing concept and discuss the influence of environmental, technological, and distribution factors on this concept; describe buyer behavior from economic, psychological and sociological points of view; identify and classify marketing activities; distinguish between marketing research methodologies; classify products; discuss the roles of producers and wholesalers; compare marketing channels; explain promotional strategy. P.R. None. (3-0) 3

MKT 4304 WHOLESALE AND MANUFACTURING DISTRIBUTION: Upon successful completion of this course the student should be able to participate in decision making sessions on Manufacturing Distribution strategies; understand the general nature of wholesaling and its place in distribution, apply such knowledge in building closer relationships between manufac-

turer and wholesalers; demonstrate the ability to handle inside and outside wholesale selling and quote prices, demonstrate an ability to give proper service to wholesaler's customers. P.R. BUS 3324 or Instructor permission. (3-0) 3

MKT 4306 SALES MANAGEMENT: Upon successful completion of this course the student should be able to: explain the organization and functions of territorial district, regional, and company sales management; know the difference between various types of sales organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting; record and file an expense account; and make sales forecasts. P.R. 3320 or permission of department head. (3-0) 3

MKT 4320 RETAILING: Upon successful completion of this course the student should be able to differentiate between various types of retailers, evaluate franchises including the contract, possible locations and potential store functions and personnel; explain the buying function and role of resident buying offices; apply merchandise pricing principles and formulas; schedule and plan merchandise handling areas; explain and evaluate various store security methods; discuss the role and importance of retail advertising and plan a store promotional activity; identify display material and techniques; complete a retail sale and explain credit and collection procedures. P.R. None. (3-0) 3

MKT 4321 ADVERTISING: Upon successful completion of this course the student should be able to define the role of advertising in the business environment; plan an advertising campaign which includes television, radio, newspaper, magazine, outdoor and transit, direct mail and direct response advertising and which applies basic media strategies, behavioral sciences theories and the legal restraints governing advertising; explain the role and functions of an advertising agency; identify components of copy and layouts. P.R. None. (3-0) 3

MKT 4322 PURCHASING: Upon successful completion of this course the student will be able to define the purchasing function; describe purchasing's role in business; recognize the importance of quality assurance; explain the role purchasing plays in deciding to make or buy; discuss the relationships between production, engineering, marketing, store quality control, finance and the purchasing function; describe the importance of planning and forecasting; interpret the ethics of purchasing; develop the legal aspects of purchasing; explain the need for evaluating purchasing performance; describe EDP's usefulness in purchasing; detail the development of both the organization and personnel for purchasing. P.R. None. (3-0) 3

MKT 4324 MARKETING SEMINAR: Upon successful completion of this course the student should be able to recognize changes in the marketing environment, participate in the assessment of marketing opportunities, recognize the importance of the components of the marketing program, and demonstrate the ability to participate in the development of a total marketing program. P.R. MKT 3324. (3-0) 3

MKT 4325 SALES MANAGEMENT: Upon successful completion of this course the student should be able to: explain the organization and functions to territorial district, regional, and company sales management; know the difference between various types of sales organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting; record and file an expense account; and make sales forecasts. P.R. 3320 or permission of department head. (3-0) 3

MOTORCYCLE MECHANICS

MME 5200 MOTORCYCLE TROUBLE SHOOTING: Upon completion of this course the student should be able to: (1) use standard diagnostic test equipment to locate faults in electrical and fuel systems; (2) use a logical sequence of steps to locate the cause of malfunctions; (3) determine the possible cause of failure of broken or worn parts. P.R. MME 5400. (1-3) 2

MME 5300 MOTORCYCLE FRAME AND CHASSIS SERVICE: Upon completion of this course the student should be able to: (1) service wheels and tires; (2) service brake systems; (3) service steering and suspension systems. P.R. None. (2-3) 3

MME 5400 MOTORCYCLE ELECTRICAL AND FUEL SYSTEMS: Upon completion of this course the student should be able to: (1) service common types of ignition systems; (2) service charging systems; (3) service cranking motor systems; (4) service lighting and accessory systems; (5) service carburetors and fuel system components. Service of these systems include disassembly, inspection, reassembly and adjustment. P.R. None. (2-6) 4

MME 5402 MOTORCYCLE ENGINE AND DRIVE TRAIN SERVICE I: Upon completion of this course the student should be able to service most two-stroke motorcycle engines. This service will include: (1) disassembly and reassembly; (2) measuring components for wear; (3) cylinder resizing; (4) servicing bearings, crankshafts, clutches, transmissions, shifting mechanisms, chains and sprockets. P.R. None. (2-6) 4

MME 5403 MOTORCYCLE ENGINE AND DRIVE TRAIN SERVICE II: (A continuation of MME 5402). Upon completion of this course the student should be able to service most four-stroke motorcycle engines. This service will include: (1) disassembly and reassembly; (2) measuring components for wear; (3) servicing valve systems, bearings, clutches, transmissions and shifting mechanisms. P.R. MME 5402. (2-6) 4

MME 5800 MOTORCYCLE ENGINE AND DRIVE TRAIN SERVICE: Upon completion of this course the student should be able to service most two and four-stroke motorcycle engines. This service will include: (1) disassembly and reassembly; (2) measuring components for wear; (3) repairing or replacing valve systems, cylinders, bearings, crankshafts, clutches, transmission assemblies, shifting mechanisms, chains and sprockets. P.R. None. (4-12) 8

MEDICAL RECORD TECHNICIAN

MRT 3200 QUALITY ASSURANCE IN HEALTH CARE FACILITIES: Upon completion of this course the student should be able to: (1) state the purpose and philosophy of quality assurance; (2) discuss the impact of current health legislation on quality assurance; (3) discuss the history and current status of quality assurance; (4) describe the organization of the Professional Standards Review Organization system; (5) state the JCAH and federal requirements for quality assurance; (6) diagram the medical audit cycle and describe the activities which take place at each point in the cycle; (7) perform audit steps of data collection and display utilizing various types of formats; (8) discuss and perform the basic medical record procedures related to patient review procedures. P.R. MRT 3405. C.R. MRT 3414 or permission of Program Director. (1-2-0) 2

MRT 3204 DIRECTED PRACTICE I: Upon completion of this course the student should be able to: (1) apply the theory of medical record practices by performing various medical record skills as provided in the general hospital; (2) discuss the major functions of a medical record department; (3) discuss the role of the medical record practitioner as a member of the health care team; (4) demonstrate positive rapport with personnel. P.R. MRT 3405, third quarter standing. C.R. MRT 3414. (0-0-6) 2

MRT 3404 MEDICAL RECORD SCIENCE I: Upon completion of this course the student should be able to: (1) identify the important people in the history of medicine; (2) trace the historical development of medicine, health care facilities, and medical records; (3) describe the value, uses, and contents of medical records; (4) perform quantitative analysis of the medical record;

- (5) discuss the organization of the AMRA, its history, and categories of membership; (6) describe various numbering and filing systems; (7) discuss the retention of records; (8) discuss the new trends in the health care delivery system. P.R. Nane. (2-4-0) 4
- MRT 3405 MEDICAL RECORD SCIENCE II:** Upon completion of this course the student should be able to: (1) discuss the major functions and organization of the medical record department; (2) describe the other hospital departments; (3) define the purposes of classification systems and nomenclatures; (4) describe the various classification systems used; (5) code and retrieve diagnoses and procedures proficiently ICD-9-CM; (6) utilize the principles of SNDO, and other coding systems and nomenclatures; (7) describe various indexes and registers. P.R. MRT 3404. (2-4-0) 4
- MRT 3414 MEDICAL RECORD SCIENCE III:** Upon completion of this course the student should be able to: (1) compute the various hospital statistics and prepare reports; (2) define all terms related to hospital statistics; (3) discuss the procedures for completing vital statistics on births, deaths, and reportable diseases; (4) discuss the sources and use of health data. P.R. MRT 3405, C.R. MRT 3204. (2-4-0) 4
- MRT 3424 PRINCIPLES OF DISEASE:** Upon completion of this course the student should be able to: (1) classify disease processes according to their etiology and organ system involvement; (2) discuss the physical signs and symptoms, complications, and preferred treatment of specific disease processes. P.R. BIO 1504, BIO 1505, MED 3304, MED 3305. (4-0-0) 4
- MRT 4205 DIRECTED PRACTICE II:** Upon completion of this course the student should be able to: (1) perform basic medical record procedures; (2) perform retrieval of medical statistics and compute statistical rates and percentages; (3) perform medical care evaluation procedures (data retrieval and display); (4) demonstrate positive rapport with personnel. P.R. MRT 3204, C.R. MRT 4404 Fourth quarter standing. (0-0-6) 2
- MRT 4206 DIRECTED PRACTICE III:** Upon completion of this course the student should be able to: (1) perform basic medical record procedures; (2) perform release of information procedures; (3) perform secondary level medical record skills; (4) perform basic procedures for patient review/utilization review; (5) demonstrate positive rapport with personnel. P.R. MRT 4205, C.R. 4215 Fifth quarter standing. (0-0-6) 2
- MRT 4315 MEDICAL RECORD SCIENCE V:** Upon completion of this course the student should be able to: (1) discuss the medical staff, its responsibilities, and committees; (2) describe the role of the medical record practitioner in relationship to the medical staff; (3) discuss accrediting and licensing of various health care facilities with special emphasis on the medical record regulations; (4) discuss the various types of long-term care facilities; (5) describe the medical records used in long-term care facilities. P.R. MRT 4404, C.R. MRT 4206. (3-0-0) 3
- MRT 4390 INDIVIDUAL STUDY:** Upon completion of this course the student should be able to meet the objectives outlined by the student and instructor to meet particular student needs not provided in other courses of study. P.R. Program Director Approval. (3-0-0) 3
- MRT 4404 MEDICAL RECORD SCIENCE IV:** Upon completion of this course the student should be able to: (1) discuss the jurisdiction of the Federal and State courts; (2) describe the laws written by non-governmental bodies which affect the medical records; (3) describe the property rights and ownership of the medical record; (4) discuss the medical record as a legal document; (5) discuss consents, authorizations and releases of medical information; (6) describe statutes and hospital policies which govern the uses of medical records and the information contained in them; (7) discuss the current health legislation which affects the medical record practitioner. P.R. MRT 3414, C.R. MRT 4205. (3-2-0) 4
- MRT 4405 MEDICAL RECORD SEMINAR:** Upon completion of this course the student should be able to: (1) discuss the various personal and vocational responsibilities of the medical record practitioner; (2) analyze problems which are encountered as a medical record practitioner and discuss solutions; (3) discuss various sources of information and assistance which are available to the practicing medical record professional. P.R. MRT 4315, C.R. MRT 4804. (4-0-0) 4
- MRT 4804 DIRECTED PRACTICE IV:** Upon completion of this course the student should be able to: (1) describe the medical record functions as they relate to mental health facilities, long-term care facilities, group practices, rehabilitation centers, specialty hospitals, and neighborhood health centers; (2) discuss the role of the medical record technician in various types of health care facilities; (3) perform the medical record skills as specific to these health care facilities; (4) demonstrate positive rapport with personnel. P.R. MRT 4206, sixth quarter standing, C.R. MRT 4405. (0-0-24) 8

MUSIC

- MUS 1100 MEN'S CHOIR:** Based upon repertoire for male chorus, this performing laboratory will prepare the students for public performance at the end of the session. Emphasis is upon sight-reading, demonstration and use of proper vocal techniques, tonal production and ensemble performance. The student will be given the opportunity to perform representative compositions from the major periods in music.* (0-3) 1
- MUS 1101 WOMEN'S GLEE CLUB:** This performance laboratory is open to all women students with emphasis on literature for female voices, vocal techniques, sightreading, ensemble performance, tone production and interpretation. The student will be given the opportunity to sing in various languages and demonstrate vocal abilities in public performance at the end of the session.* (0-3) 1
- MUS 1104 CLASS VOICE:** Upon successful completion of this course, the student should be able to demonstrate correct posture, breathing and support for the resonation of vowels, proper diction and perform selected pieces from song literature.* (0-2) 1
- MUS 1107 CHAMBER CHOIR:** This is a practical performing laboratory to acquaint the student with the study and performance of choral music from each significant period of the development of choral composition. The program may vary each quarter depending on vocal abilities involved, size of the choir and balance. Emphasis is placed upon correct tonal production, proper vocal techniques, sightreading, ensemble performance and repertoire. Within a given quarter the student will be acquainted with various styles of periods and representative compositions culminating in a public performance at the end of the session.* (0-3) 1
- MUS 1112 CLASS STRINGS:** The student will study the principles and techniques of playing the violin, viola, cello and double bass.* (0-3) 1
- MUS 1117 WIND ENSEMBLE:** An organization designed to provide the opportunity for wind instrument students to continue the study of their particular instruments and to become familiar, through ensemble performance, with music of various composers, periods and styles. (Credit cumulative not to exceed three quarter hours.) P.R. Consent.* (0-3) 1
- MUS 1127 ORCHESTRA:** An organization designed to provide continuing performance opportunity for the student who has already developed some skills on an orchestral instrument. Emphasis will be placed on further development of student's playing ability and an acquaintance with orchestral literature. P.R. Consent.* (0-3) 1

- MUS 1128 CONCERT BAND: An organization designed to provide performance opportunity for the student who has already developed skills on a band instrument. Emphasis is placed on further development of skills on particular instruments as well as acquaintance with concert band literature. P.R. Consent.* (0-4) 1
- MUS 1154 CLASS PIANO I: In an electronic piano laboratory setting, the student will receive group instruction in the basic principles and techniques of piano playing for the beginning student. Upon successful completion of the course, the student should demonstrate abilities in sightreading, transposition, improvisation and performance of simple two hand compositions.* (0-3) 1
- MUS 1155 CLASS PIANO II: A continuation of MUS 1154, the student is further acquainted with major scales, triads and inversions, and more advanced repertoire. The course utilizes the latest techniques and materials for helping the student grasp the skills of playing the piano in a laboratory setting. Emphasis is upon continued development of technique and application of skills at the keyboard. P.R. MUS 1154 or consent.* (0-3) 1
- MUS 1156 CLASS PIANO III: A continuation of MUS 1155 consisting of an integrated study of literature and theory. Upon satisfactory completion the student should be able to play — in addition to a number of pieces — the chromatic, whole tone, and minor scales (in tetrachords), to harmonize minor melodies, work with secondary triads and seventh chords, and know the principles of traditional scale fingerings for major keys. P.R. MUS 1155 or consent.* (0-3) 1
- MUS 1160 CLASSICAL AND FLAMENCO GUITAR: Upon successful completion of this course the student should be able to read guitar music, play major and minor chords, some seventh chords and perform selected solos by Bach, Beethoven, Tarrega, Aguada and Lari. The student should also be able to perform right and left hand classical technique Carcassi studies and right hand studies in the tremolo technique and flamenco strums and rasgueados.* (0-3) 1
- MUS 1164 GUITAR: Upon successful completion of this course the student should be able to: read guitar music in the first positions, perform a selected number of guitar solos, single note passages and duets. The student should also be able to play chords in the first position and be able to transpose to other selected keys.* (0-3) 1
- MUS 1174 APPLIED MUSIC I: Upon successful completion of this course the student should have made significant improvement in technique and have mastered selected literature for the instrument. (1-0) 1
- MUS 1183 INTRODUCTION TO MODERN DANCE: Upon successful completion of this course, the student will have acquired a knowledge of basic terminology, theory and appreciation of modern dance, as well as certain proficient execution of basic body movements as they relate to modern dance.* (0-3) 1
- MUS 1184 MODERN DANCE I: Upon successful completion of this course, the student will have acquired a sound understanding of the elements of dance with further emphasis on techniques, requiring a higher degree of skill. P.R. MUS 1183.* (0-3) 1
- MUS 1185 MODERN DANCE II: Upon successful completion of this course, the student will have acquired further mastery of modern dance technique, requiring a higher degree of skill. P.R. MUS 1184.* (0-3) 1
- MUS 1186 MODERN DANCE III: Upon successful completion of this course, the student will have acquired technical mastery of modern dance skills at the elementary level and will have begun exploration into different qualities of movement and different spatial relationships utilized in dance. P.R. MUS 1185.* (0-3) 1
- MUS 1190 CHARACTER DANCE: Upon successful completion of the course, the student will have acquired a knowledge of and a certain proficient execution of theatrical dance based on the national folk dances of middle and eastern Europe.* (0-3) 1
- MUS 1193 INTRODUCTION TO BALLET: Upon successful completion of this course the student will have acquired a fundamental movement vocabulary as employed in ballet technique, theory and appreciation of ballet, as well as certain proficient execution of basic ballet steps.* (0-3) 1
- MUS 1194 BALLET I: Upon successful completion of this course, the student will have acquired a firm understanding of body placement with further emphasis on technique, requiring a higher degree of skill and be able to perform simple practice exercises at the barre and in center floor. P.R. MUS 1193.* (0-3) 1
- MUS 1195 BALLET II: Upon successful completion of this course, the student will have acquired further mastery of skills in ballet techniques as well as simple movement combinations in center floor. P.R. MUS 1194.* (0-3) 1
- MUS 1196 BALLET III: Upon successful completion of this course, the student will have acquired mastery of ballet techniques at the elementary level and have a working knowledge of basic performing skills. P.R. MUS 1195.* (0-3) 1
- MUS 1197 BALLET POINTE WORK: Upon successful completion of this course, the student will have acquired a knowledge of and a certain proficient execution of beginning pointe work, foot and leg strengthening exercises, and correct fitting and care of pointe shoes. P.R. MUS 1196 or equivalent.* (0-3) 1
- MUS 1274 APPLIED MUSIC II: Upon successful completion of this course the student should have made significant improvement in technique and have mastered selected literature for the instrument. (2-0) 2
- MUS 1300 INTRODUCTION TO MUSIC I: This course is designed to give the beginning music student a knowledge of the rudiments of music from the standpoint of rhythm and melody. The instrument studied is the recorder. Upon satisfactory completion of the course the student should be able to compose and perform simple rhythms and melodies and should have achieved some facility at playing the recorder in the range of the fifth or the octave. (3-0) 3
- MUS 1301 INTRODUCTION TO MUSIC II: This course is a continuation of MUS 1300 and deals with the harmonic aspect of music as realized on the piano and the guitar. Upon satisfactory completion the student should be able to read simple melodies at the piano and harmonize then with I, IV⁶/4, and V⁶/5 chords and should be able to read and play single notes on the guitar and the most commonly used chords in a variety of strumming patterns. (3-0) 3
- MUS 1304 CHILDREN'S MUSIC I: Upon completion of this course, the student should be able to: (1) plan a music program for young children (ages: infant-10 years); (2) display working knowledge of fundamentals of music; (3) play autoharp, rhythm band and other instruments; and (4) develop a resource file of methods and materials.* (3-0) 3
- MUS 1305 CHILDREN'S MUSIC II: A continuation of MUS 1304. In addition, the student will become familiar with children's song literature, recordings and basic trends in music education. Each student will be responsible for making observations of various music programs in the community. P.R. MUS 1304.* (3-0) 3
- MUS 1310 INTRODUCTION TO MUSIC THEORY: A beginning or refresher course for the student with little or no keyboard background, this course should prepare the student for Minor Theory I. Included are the basic fundamentals of music theory,

- notation, major and minor scales, intervals and basic chord structure. Upon successful completion of the course, the student should demonstrate a better understanding of the basic principles and application of music theory. (3-0) 3
- MUS 1314 MUSIC APPRECIATION I: Upon successful completion of this course a student should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology, form, and history. This perspective should enable the student to be an informed listener. (3-0) 3
- MUS 1315 MUSIC APPRECIATION II: Upon successful completion of this course a student should have developed skills in basic listening and understanding of music from the Baroque and/or Classical periods. (3-0) 3
- MUS 1316 MUSIC APPRECIATION III: Upon successful completion of this course a student should have developed skills in basic listening and understanding of music from the Romantic and/or Contemporary periods. (3-0) 3
- MUS 1324 RECORDING STUDIO TECHNIQUES I: The student will be introduced to the recording studio from an artistic and operational point of view, the operation and function of audio consoles, microphones, multi-track recorders, echo chambers and their relationship to the musician, sound engineer and producer.* (3-0) 3
- MUS 1325 RECORDING STUDIO TECHNIQUES II: This is a continuation of MUS 1324. In addition the student will be introduced to tape splicing and editing. P.R. MUS 1324.* (3-0) 3
- MUS 1326 RECORDING STUDIO TECHNIQUES III: This course is a continuation of MUS 1325 with observation of multi-track recording and mix-down, mike placement and patch bay functions. Students participate as producers, musicians, singers and back-up voices while the instructor demonstrates the use of studio equipment. Students will also produce and participate in radio spots. P.R. MUS 1325.* (0-6) 3
- MUS 1327 RECORDING STUDIO TECHNIQUES IV: This is the last of a series of four courses in Recording Studio Techniques. The course is predominantly a recording studio workshop whereby the student is given the opportunity to create and produce commercial music, operate the console and tape recorders, and exhibit creativity in phases that holds the most interest. P.R. MUS 1326.* (0-6) 3
- MUS 1334 MUSIC MANUSCRIPT I: AUTOGRAPHY AND PREPARATION: This course is designed to teach the serious music student the fundamental skills in music calligraphy including notational techniques, technical vocabulary, and editing procedures by which music is prepared for performance and graphic reproduction by autography. P.R. Basic music literacy.* (2-2) 3
- MUS 1335 MUSIC MANUSCRIPT II: This course will enlarge and develop the skills which the student has acquired in MUS 1334 with the addition of further techniques and specific problems encountered by the copyist. P.R. MUS 1334.* (2-2) 3
- MUS 1404 MUSIC THEORY I: This course is concerned with the development of harmony dealing specifically with the principal triads including elementary work in melodic and rhythmic dictation, keyboard, and sight singing. The student should be able to write a simple diatonic melody and harmonize it according to Eighteenth Century techniques upon successful completion of this course. P.R. MUS 1310 or consent. (3-2) 4
- MUS 1405 MUSIC THEORY II: This course is a continuation of MUS 1404. The secondary triads and chord inversions are introduced in the development of harmony and more advanced work is done in dictation, keyboard, and sight singing. The student should be able to write a four voice choral piece and analyze it upon successful completion of this course. P.R. MUS 1404. (3-2) 4
- MUS 1406 MUSIC THEORY III: This course is a continuation of MUS 1405. Minor keys and seventh chords are studied in harmony and more advanced work is done in dictation, keyboard and sight singing. The student should be able to analyze and to write a diatonic piece in Baroque style and a song with piano accompaniment upon successful completion of the course. P.R. MUS 1405. (3-2) 4
- MUS 2000 SEMINAR IN MUSIC: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA Credit:
- MUS 2100 SEMINAR IN MUSIC: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA Credit:
- MUS 2154 ADVANCED CLASS PIANO I: Upon successful completion of this course the student should be able to harmonize simple tunes using secondary dominants and play a minimum number of technical studies and selected pieces of piano literature. P.R. MUS 1156 or consent.* (0-3) 1
- MUS 2155 ADVANCED CLASS PIANO II: A continuation of 2154. The course emphasizes technical development and mastery of music from several historical periods. The student will be able to play 3 or more etudes and pieces studied by the entire class and will in addition be able to perform one or more pieces selected to improve or capitalize on individual pianistic ability. P.R. MUS 2154 or consent.* (0-3) 1
- MUS 2156 ADVANCED CLASS PIANO III: A continuation of MUS 2155. Technical and stylistic problems are dealt with both individually and collectively. Upon successful completion of this course the student should be able to perform one movement of a Classical sonata, a Baroque dance and a Romantic or Contemporary work, or the equivalent. P.R. MUS 2155 or consent.* (0-3) 1
- MUS 2158 PIANO ENSEMBLE: Designed for students having completed six or more quarters of piano, this class is an introductory study of piano literature requiring two or more persons performing on one or more pianos. Emphasis is upon ensemble performance, repertoire, sight reading and continued technique building. P.R. MUS 2156 or consent.* (0-3) 1
- MUS 2174 ADVANCED APPLIED MUSIC I: Upon successful completion of this course the student should have made further improvements in technical and musical skills and have mastered a more advanced level of literature for the instrument. (1-0) 1
- MUS 2184 ADVANCED MODERN DANCE I: Upon successful completion of this course, the student will have made significant progress in technique and have acquired an understanding of kinesthesia (body energy). P.R. MUS 1186.* (0-3) 1
- MUS 2185 ADVANCED MODERN DANCE II: Upon successful completion of this course, the student will have acquired further mastery of modern dance skills and an understanding of musical structure and how it relates to phrasing in dance. P.R. MUS 2184.* (0-3) 1
- MUS 2186 ADVANCED MODERN DANCE III: Upon successful completion of this course, the student will have acquired technical mastery of modern dance skills at an intermediate level, have a firm working knowledge of the elements of dance and be introduced to different dance selections representative of the modern dance repertoire. P.R. MUS 2185.* (0-3) 1

- MUS 2194 **ADVANCED BALLET I:** Upon successful completion of this course, the student will have made significant progress in technique and achieve a performing proficiency of set patterns. P.R. MUS 1196.* (0-3) 1
- MUS 2195 **ADVANCED BALLET II:** Upon successful completion of this course, the student will have acquired further mastery of ballet technique and the application of variables affecting performance. P.R. MUS 2194.* (0-3) 1
- MUS 2196 **ADVANCED BALLET III:** Upon successful completion of this course, the student will have acquired mastery of ballet technique at an intermediate level as well as the ability to execute and perform complicated movement variations in extended sequences (more than one phrase). P.R. MUS 2195.* (0-3) 1
- MUS 2200 **SEMINAR IN MUSIC:** A lecture-laboratory course devoted to special areas of music which can be affected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA Credit: 2
- MUS 2204 **SPECIAL PROBLEMS IN MUSIC:** An advanced problems course in which the student will select a topic for independent study involving independent laboratory and library work. P.R. Approval of department head.* (1-3) 2
- MUS 2257 **JAZZ PIANO:** Upon successful completion of this course the student should be able to construct jazz chords from written chord symbols on the keyboard, write these chords on manuscript paper and be able to take a standard popular tune and reharmonize it according to certain basic rules. P.R. MUS 2156 or consent.* (1-3) 2
- MUS 2274 **ADVANCED APPLIED MUSIC II:** Upon successful completion of this course, the student should have made further improvements in technical and musical skills and have mastered a more advanced level of literature for the instrument. (2-0) 2
- MUS 2284 **CHOREOGRAPHY:** Upon successful completion of this course, the student will have explored the basic elements of movement, rhythm and design and will understand the basic factors related to form in dance composition, be able to analyze music structure and quality and devise suitable choreography for specific music. P.R. MUS 1184 or permission.* (0-4) 2
- MUS 2300 **SEMINAR IN MUSIC:** A lecture-laboratory course devoted to special areas of music which can be affected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA Credit: 3.
- MUS 2338 **OPERA WORKSHOP:** This course is designed to help the student gain knowledge in interpretation and style of operatic literature and gain experience through performance and opera productions. Registration upon consent of the instructor.* (0-6) 3
- MUS 2404 **HISTORY AND LITERATURE OF MUSIC I:** A study of music from ancient times through the Renaissance. Upon successful completion of the course the student should be able to trace the development of music — its styles and forms — from ancient times through the Middle Ages and the Renaissance to 1600. He should know the major composers and should be able to identify some specific works of music and/or forms. P.R. The ability to read music and MUS 1314 or consent. (3-2) 4
- MUS 2405 **HISTORY AND LITERATURE OF MUSIC II:** A study of music of the Baroque and Classical periods up through the early and middle works of Beethoven. Upon successful completion of the course the student should be able to describe the most important characteristics and forms, vocal and instrumental, of each period as represented especially in the works of Monteverdi, Corelli, Vivaldi, Bach, Handel, Haydn, Mozart, and Beethoven, and should be able to identify some special works. P.R. MUS 2404 or consent. (3-2) 4
- MUS 2406 **HISTORY AND LITERATURE OF MUSIC III:** A study of music of the Romantic Period beginning with late Beethoven and proceeding through the Twentieth Century. Upon successful completion of the course the student should be able to trace the major musical developments through the Nineteenth and Twentieth Centuries in respect to melody, rhythm, harmony, form, instrumentation. The student should be acquainted with a variety of music by the major Romantic and Contemporary composers and be able to describe and distinguish style characteristics of a number of composers. P.R. MUS 2404 and MUS 2405 or consent. (3-2) 4
- MUS 2407 **ADVANCED MUSIC THEORY I:** A continuation of MUS 1406. Chromatic harmony is dealt with by way of secondary dominants and modulation. Phrases and periods are discussed as well as advanced work in sight singing, dictation and keyboard. Upon successful completion of the course the student should be able to write a piece which modulates to another key and to analyze the phrase structure. P.R. MUS 1406. (3-2) 4
- MUS 2408 **ADVANCED MUSIC THEORY II:** A continuation of MUS 2407. Chromatic harmony is studied further by way of diminished seventh chords. Two and three part forms are discussed as well as advanced work in sight singing, dictation and keyboard. Upon successful completion of the course the student should be able to harmonize a modulating melody in Baroque and Classical style and analyze the form of a simple work in those periods. P.R. MUS 2407. (3-2) 4
- MUS 2409 **ADVANCED MUSIC THEORY III:** A continuation of MUS 2408. Chromatic harmony is dealt with in ninth and altered chords, modulation to distant keys, and Twentieth Century styles. Overall form is studied as well as advanced work in sight singing, dictation and keyboard. Upon successful completion of this course the student should be able to analyze harmonically and melodically work in traditional style and to write a piece incorporating the above in Twentieth Century style. P.R. MUS 2408. (3-2) 4

*Does not meet humanities requirement.

NURSE AIDE

- NUA 5700 **NURSE AIDE SKILLS I:** Upon completion of this course the student should be able to: (1) provide for the hygienic needs of patients; (2) provide a safe environment for patients; (3) utilize principles of body mechanics in giving patient care; (4) demonstrate the ability to perform basic nursing skills and procedures; (5) demonstrate appropriate behavior in patient care setting; (6) follow policies and procedures of the clinical agency. P.R. Admission to program. C.R. NUA 5701. (3-0-12) 7
- NUA 5701 **NURSE AIDE SKILLS II:** Upon completion of this course the student should be able to: (1) demonstrate effective working relationships in the clinical setting; (2) appreciate the role of the nurse aide as a member of the health team; (3) use appropriate terminology in reporting and recording; (4) accept responsibility for own actions; (5) recognize the special needs of patients; (6) communicate appropriately in the clinical setting. P.R. Admission to program. C.R. NUA 5700. (3-0-12) 7

PRACTICAL NURSING

- NUP 5104 **VOCATIONAL RELATIONSHIPS:** Upon completion of this course the student should be able to: (1) make application for licensure by examination and by endorsement; (2) identify nursing organizations and their functions; (3) follow appropriate procedures in seeking employment; (4) identify the two roles of a Licensed Practical Nurse; (5) relate specific legal aspects to nursing practice. C.R. NUP 5706, NUP 5707. (1-0-0) 1

NUP 5203 ORIENTATION TO VOCATIONAL RELATIONSHIPS: Upon completion of this course the student should be able to: (1) discuss the historical development of nursing; (2) define health team, medical team and nursing team; (3) set realistic standards for own achievement; (4) list ethical and legal responsibilities in nursing. P.R. Admission to Program. C.R. NUP 5704. (2-0-0) 2

NUP 5390 INDIVIDUAL STUDY: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. P.R. None. (3-0) 3

NUP 5400 BASIC PRINCIPLES OF DRUG ADMINISTRATION: Upon completion of this course the student should be able to: (1) demonstrate competence in the use of the systems of measurements in computing drug dosage; (2) follow established procedure in preparing oral and parenteral medications; (3) identify sources and purposes of commonly used drugs; (4) identify various forms in which drugs are packaged; (5) prepare drug cards utilizing appropriate information and resources; (6) identify safety measures necessary in administration of drugs; (7) identify action, side effects, common names and uses of specific drugs; (8) classify drugs according to therapeutic purposes; (9) list state and federal laws regulating the use of drugs. P.R. NUP 5704. C.R. NUP 5904. (3-2-0) 4

NUP 5704 INTRODUCTION TO PATIENT CARE: Upon completion of this course the student should be able to: (1) establish effective, professional relationships in the classroom and clinical setting; (2) use proper body mechanics in carrying out patient care; (3) identify basic nursing needs and implement measures necessary to meet these needs; (4) provide safety and comfort measures for all patients; (5) make accurate observations and report and record appropriately; (6) maintain a therapeutic environment in the patient care setting; (7) compute and measure drug dosages; (8) demonstrate basic nursing skills and procedures in caring for patients; (9) follow policies and procedures of clinical agency. P.R. Admission to Program. C.R. NUP 5203. (3-4-6) 7

NUP 5705 CARE OF PATIENTS WITH MED/SURGICAL CONDITIONS II: Upon completion of this course the student should be able to: (1) apply previously learned knowledge and skills in planning patient care for patients with Med/Surgical conditions; (2) carry out aseptic technique in patient care; (3) administer oral and parenteral medication; (4) plan and implement patient care according to specific needs of patient; (5) provide safe effective nursing care to selected patients with specific Med/Surgical conditions; (6) behave at all times in a professional manner with patients, co-workers, instructors, nurses and medical staff; (7) do an objective self-evaluation of their performance. P.R. NUP 5400, NUP 5904. C.R. NUP 5717. (2-4-9) 7

NUP 5706 CARE OF INFANTS AND CHILDREN: Upon completion of this course the student should be able to: (1) provide safe nursing care for children from infancy through adolescence; (2) identify common growth and developmental tasks, and needs of children; (3) set priorities based upon principles of growth and development in organizing patient care; (4) compare the needs of the well child and the sick child; (5) identify anatomical differences between the child and adult; (6) provide nursing care for those disorders most commonly associated with childhood. P.R. NUP 5705, NUP 5717. (2-4-9) 7

NUP 5707 CARE OF MOTHERS AND NEWBORN INFANTS: Upon completion of this course the student should be able to: (1) carry out the function of the Practical Nurse in care of mothers and infants during pregnancy, childbirth and the post-partum period; (2) demonstrate a knowledge and understanding of human sexuality, normal growth and development during pregnancy, and the processes of labor and delivery; (3) compare the psycho-prophylactic and the traditional methods commonly used in childbirth; (4) identify common discomforts of the antepartum and postpartum periods and give measures to relieve these discomforts; (5) report pertinent observations to the Registered Nurse in caring for the maternity patients with complications. P.R. NUP 5705, NUP 5717. (2-4-9) 7

NUP 5717 CARE OF THE SERIOUSLY ILL AND INJURED: Upon completion of this course the student should be able to: (1) outline nursing care procedures needed for patients with specific conditions of illness that are beyond routine measures; (2) perform effectively in an assisting role to the Registered Nurse in the care of the seriously ill and injured; (3) follow directions in carrying out delegated responsibilities in the care of the physically handicapped, the seriously ill, and the dying; (4) assist in providing continued rehabilitation measures for physically impaired patients. P.R. NUP 5904, NUP 5400. C.R. NUP 5705. (2-4-9) 7

NUP 5904 CARE OF PATIENTS WITH MED/SURGICAL CONDITIONS I: Upon completion of this course the student should be able to: (1) provide the nursing needs of patients with various medical/surgery conditions; (2) administer oral and parenteral medication; (3) develop and implement a nursing care plan for selected patients; (4) use appropriate therapeutic measures; (5) demonstrate knowledge of principles of asepsis; (6) recognize and meet the needs of the geriatric patient; (7) apply previously learned principles in meeting physical, emotionally and social needs of patients; (8) demonstrate an understanding of ways in which an individual responds to illness; (9) display acceptable behavior in the patient care setting. P.R. NUP 5704. C.R. NUP 5400. (3-2-15) 9

NURSING

DRG 9502 BASIC CALCULATIONS FOR DRUG ADMINISTRATION: A beginning or refresher course for students who will enter ALL Health curriculums. Metric system, apothecaries system, household system, tablet dosages, solutions, temperature conversion and insulin dosages are the units available for study. Any student may enroll for DRG 9502. There are no prerequisites. DRG 9502 is a free course and books are available in the library. (5-0) 5

NUR 3305 NUTRITION FOR NURSES: Upon completion of this course the student will be able to obtain a nutrition history and interpret it in relation to nutrients, social and cultural factors, normal nutritional needs, and need for modification due to illness. P.R. NUR 3704, C.R. NUR 3805. (3-0-0) 3

NUR 3704 FUNDAMENTALS OF NURSING I: Upon completion of this course the student should be able to: (1) use problem-solving approach in planning patient care; (2) demonstrate satisfactory inter-personal and professional relationships; (3) make and utilize pertinent observations; (4) provide for the basic needs of patients; (5) provide a safe environment for patients; (6) demonstrate skill in providing physical care for hospitalized patients; (7) demonstrate beginning knowledge of the specific needs of the geriatric patient; (8) calculate dosage and administer oral medications; (9) follow the policies and procedures of the clinical agency. P.R. Admission to program. C.R. PSY 2504, BIO 1504. (3-4-6) 7

NUR 3805 FUNDAMENTALS OF NURSING II: Upon completion of this course the student should be able to: (1) prepare a patient for surgery; (2) demonstrate understanding of the patient's surgical experience; (3) give general post-operative care; (4) calculate dosage for and administer oral and parenteral medications; (5) administer I.V. fluids and add medication to I.V. bottles and I.V. Volurol; (6) change post operative dressings; (7) care for the patient receiving inhalation therapy; (8) begin utilization of basic concepts of medical/surgical nursing related to shock and fluid and electrolyte balance; (9) follow the policies and practices of the clinical agency. P.R. NUR 3704, BIO 1504, PSY 2504. C.R. BIO 1505, NUR 3305. (3-4-9) 8

NUR 3904 PHYSICAL AND MENTAL HEALTH NURSING I: Upon completion of this course the student should be able to: (1) integrate knowledge learned from previous nursing and related courses to provide safe nursing care; (2) demonstrate responsible professional behavior; (3) examine the relationship between the physical and mental effects of illness and plan nursing care based upon this relationship; (4) meet the psychological needs of patients based upon the knowledge of therapeutic communications and psychiatric therapies; (5) plan and implement nursing care for patients with problems of immobility based upon knowledge of pathophysiology and scientific principles of nursing; (6) plan and implement nursing care for patients with cancer based upon knowledge of pathophysiology and scientific principles of nursing. P.R. NUR 3805, BIO 1505, NUR 3305. C.R. BIO 1503, PSY 2514. (4-4-9) 9

NUR 3905 PHYSICAL AND MENTAL HEALTH NURSING II: Upon completion of this course the student should be able to: (1) provide safe nursing care based upon knowledge learned from previous nursing and related courses; (2) demonstrate responsible professional behavior; (3) use effective communication techniques to meet the psychological needs of patients; (4) meet the needs of the mentally ill patient based upon knowledge of psychopathology and dynamics of interpersonal relationships; (5) plan and implement nursing care for patients with burns, endocrine disorders, and gastrointestinal disorders based upon knowledge of pathophysiology and scientific principles of nursing. P.R. NUR 3904, BIO 1503, PSY 2514. C.R. SOC 2514. (3-4-12) 9

NUR 4304 TRENDS IN NURSING: Upon completion of this course the student should be able to: (1) identify and relate past and current political, social, and economic factor to nursing education and practice; (2) compare professional, technical, and practical nursing education and practice; (3) identify the professional organizations of nursing, their purposes and contribution to nurses and nursing; (4) describe general qualifications for positions in various fields of nursing; (5) describe the major purpose and function of licensing laws, specifically, Nurse Practice Acts; (6) relate the Law of Negligence and Malpractice to the practice of nursing; (7) identify the most common causes of legal actions; (8) describe patterns and trends in nursing education and nursing practice. C.R. NUR 4906. (2-2-0) 3

NUR 4390 INDIVIDUAL STUDY: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. P.R. None. (3-0) 3

NUR 4906 PHYSICAL AND MENTAL HEALTH NURSING III: Upon completion of this course the student should be able to: (1) assess the nursing needs, plan, implement and evaluate nursing care for patients in the coronary and intensive care units; (2) identify stressors that contribute to physical and mental illness in the adult; (3) demonstrate the ability to apply leadership skills when assigned to the role as team leader or team member in the clinical area; (4) interact with other health team members with the intent to modify patient care; (5) demonstrate the understanding of scientific principles underlying the care of patients with neurological, renal, cardiac, respiratory and nutritional problems when caring for patients assigned for clinical experience; (6) apply knowledge and skills gained in all previous courses when caring for patients. P.R. NUR 4914, NUR 4915. C.R. NUR 4304. (3-4-12) 9

NUR 4914 MATERNAL AND NEONATAL NURSING: Upon completion of this course the student should be able to: (1) apply the concept of family centered maternity care; (2) assess the needs and use the assessment as a basis to provide nursing care for the mother during the prenatal, intrapartum and postpartum periods; (3) teach health care to promote an emotionally satisfying and physically safe delivery of the newborn infant; (4) assess the newborn infant's needs to use as a basis for giving nursing care; (5) teach the parents basic infant care; (6) recognize signs and symptoms of the various obstetrical complications and take appropriate nursing action. P.R. NUR 3905, SOC 2514. (3-4-12) 9

NUR 4915 NURSING OF CHILDREN: Upon completion of this course the student should be able to: (1) meet the nursing needs of children (infants through preadolescents) which result from hereditary or congenital factors, accidental injury, or infection; (2) use knowledge of normal growth and development as a basis for planning nursing care and for recognizing the deviations which may be produced by illness and hospitalization. P.R. NUR 3905, SOC 2514. (3-4-12) 9

PHILOSOPHY

PHI 1500 INTRODUCTION TO PHILOSOPHY: An introduction of the basic problems of human thought, emphasizing the philosophical systems dealing with these problems and their historical development. (5-0) 5

PHI 2500 LOGIC: An intensive study of the methodology of valid reasoning, including formal principles of deduction and induction. (5-0) 5

PHYSICS

PHY 1300 SCIENCE AND SOCIETY: This course is designed to make the student more familiar with science as a part of cultural influence. The successful student will become aware of some of the most significant discoveries in the development of modern technological society, and their effect upon the art, politics, religion, etc. of the time. It is intended that the student become particularly aware of potential future conflicts between technology and humanism. (3-0) 3

PHY 1400 SCIENCE AND SOCIETY: The same lecture as PHY 1300 with the addition of laboratory experience for physical science credit. The student will perform facsimiles of several classical experiments and become familiar with some basic laboratory apparatus. (3-2) 4

PHY 1404 PHYSICS I: BASIC MECHANICS: The first course in the introductory physics sequence designed to meet the needs and interests of students in technology programs and students working towards bachelors' degrees in areas other than engineering, mathematics or physical science. Upon successful completion of this course, the student will demonstrate proficiency in the use of the International System of units and have an understanding of the basic principles of linear motion, force, equilibrium, friction, energy, power and momentum. The student's understanding will be demonstrated primarily by solving problems involving the fundamentals of these physical concepts. P.R. MAT 1504, MAT 3504, high school equivalent, or permission. (3-2) 4

PHY 1405 PHYSICS II: ELASTIC AND THERMAL PROPERTIES OF MATTER: A continuation of PHY 1404 which includes the study of such topics as rotational dynamics, elastic modulus, simple harmonic motion, thermal properties of matter, gas laws and heat transfer. For successful completion of the course, the student should master the terminology and the physical units used in these topics and be able to solve basic problems selected from these areas. P.R. PHY 1404. (3-2) 4

PHY 1406 PHYSICS III: ELECTRICITY AND MAGNETISM: The third course in the introductory physics sequence. Topics included are static electricity, electric fields and potential, simple DC circuits, simple AC circuits, Magnetism, and electromagnetic induction. These topics are treated with both a qualitative and a problem solving approach. P.R. PHY 1404. (3-2) 4

- PHY 1407 PHYSICS IV: MODERN PHYSICS:** The last of the introductory physics sequence is an overview of the most significant discoveries in physics which have radically changed our views of nature since the nineteenth century. Beginning with general wave phenomena, the course progresses through em waves, physical optics, atomic structure, and a cursory treatment of the basics of quantum theory, relativity and nuclear processes. P.R. PHY 1404 and 1406 or permission. (3-2) 4
- PHY 2504 GENERAL PHYSICS I: MECHANICS:** The first of a three course sequence designed primarily for students majoring in physical science, engineering or mathematics. Upon successful completion of this course the student should be able to demonstrate an understanding of principles of kinematics, particle dynamics, energy and momentum, particularly through the solution of appropriate problems of a level requiring the use of calculus and vector analysis. P.R. MAT 1524 or consent. (4-2) 5
- PHY 2505 GENERAL PHYSICS II: MOLECULAR PHYSICS AND WAVES:** A continuation of the sequence beginning with PHY 2504. Upon successful completion of this course, the student should be able to demonstrate an understanding of principles of molecular physics, thermal properties of matter, wave mechanics and related topics. P.R. PHY 2504 or consent. (4-2) 5
- PHY 2506 GENERAL PHYSICS III: ELECTRICITY AND MAGNETISM:** The third in the sequence of courses beginning with PHY 2504. Students completing this course should be able to solve rather rigorous problems in the area of electrical fields, current electricity and electromagnetic fields. P.R. PHY 2505 or consent. (4-2) 5
- PHY 2507 GENERAL PHYSICS IV, OPTICS & MODERN PHYSICS:** This is the fourth course in the General Physics sequence which is designed for students majoring in Physical Science, Engineering, or Mathematics. Upon successful completion of the course the student should be able to demonstrate conceptual understanding and the capability of solving problems involving electromagnetic oscillations, Maxwell's equations, geometric optics, optical spectra, the quantum, and nuclear emissions. Prerequisite: PHY 2504 and 2506 or PHY 1404, 1406 and strong math background. (4-2) 5
- PHY 3324 RADIATION PHYSICS I:** This course is designed primarily for, but not limited to, Radiology Technology students. Upon successful completion of this course, the student should have a background in structure of matter, basic electricity and magnetism, and the nature of electromagnetic radiation to comprehend the theories underlying the construction and operation of a basic radiography unit. P.R. High school credit in algebra. (2-2) 3
- PHY 3325 RADIATION PHYSICS II:** A continuation of PHY 3324. Upon completion of this course, the student should be able to draw and explain basic radiography circuitry, and should be able to explain the basic principles of radiation dosage, detection, protection, and simple nuclear processes. P.R. PHY 3324. (2-2) 3
- PHY 3414 PHYSICS OF RESPIRATORY THERAPY:** The student successfully completing this course should have an overview of basic principles related to properties of matter, energy, heat, gas laws and basic electricity, with particular emphasis on applications to Respiratory Therapy. (3-2) 4
- PHY 5304 SHOP SCIENCE I:** An introductory course in physics and its application covering systems and measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electromagnetism. The production, transmission, distribution, measurement and specific application of electrical energy also constitute major areas of study. The successful student will demonstrate an acceptable level of understanding by passing a series of mastery quizzes designed to cover each of the topics listed. (2-2) 3
- PHY 5305 SHOP SCIENCE II:** A continuation of PHY 5304. Principles of force, motion, work, energy, power and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Student mastery testing is again employed. (2-2) 3

SMALL ENGINE AND POWERBOAT MECHANICS

- PME 5210 OUTBOARD MOTOR REPAIR I:** Upon completion of this course the student will have: (1) demonstrated an understanding of basic electrical systems theory; (2) serviced common outboard ignition systems; (3) serviced cranking motor systems; (4) serviced charging systems; (5) demonstrated an understanding of fuel induction systems; (6) serviced fuel induction systems. P.R. None. (1-3) 2
- PME 5211 SMALL ENGINE REPAIR I:** Upon completion of this course the student will have: (1) demonstrated an understanding of the basic operations of two-stroke and four-stroke cycle air cooled engines; (2) demonstrated an understanding of magneto ignition systems; (3) serviced at least two types of ignition systems; (4) demonstrated an understanding of carburetion; (5) serviced at least three (3) types of carburetors; (6) serviced recoil starters. P.R. None. (1-3) 2
- PME 5214 SMALL ENGINE OVERHAUL:** Upon completion of this course the student should be able to service most small air cooled two or four-stroke cycle engines. This service will include: (1) disassembly and reassembly; (2) measuring components for wear; (3) servicing valves; (4) resizing cylinders; (5) replacing bearings and bushings. P.R. PME 5211. (1-3) 2
- PME 5220 CHAIN SAW REPAIR:** Upon completion of this course the student will have serviced several types of gasoline powered chain saws. This will include service on: (1) ignition systems; (2) fuel systems; (3) powerheads; and (4) cutting units. P.R. None. (1-3) 2
- PME 5301 SMALL ENGINE ELECTRICAL & FUEL SYSTEMS:** Upon completion of this course the student will demonstrate an understanding of electrical and fuel systems used on small gas engines and related equipment. This will include servicing, testing and trouble-shooting: (1) ignition; (2) charging; (3) starting; and (4) carburetion. P.R. None. (2-3) 3
- PME 5322 OUTBOARD LOWER UNIT SERVICE:** Upon completion of this course the student will have serviced at least three (3) types of lower units. This service will include: (1) removal and installation of lower unit; (2) service of manual shift gear case; (3) service of hydraulic shift gear case; (4) replacement of bushings and bearings; (5) proper adjustment of gear case. P.R. None. (2-3) 3
- PME 5410 OUTBOARD ELECTRICAL & FUEL SYSTEMS:** Upon completion of this course the student will demonstrate an understanding of the operation of common electrical and fuel systems used on modern outboard motors and serviced the following on these motors: (1) ignition system; (2) charging system; (3) starting system; (4) carburetion; (5) fuel delivery systems. (2-6) 4
- PME 5411 POWER TRANSMISSION & DRIVE SYSTEMS:** Upon completion of this course the student will have serviced several types of drive components used on self-propelled yard, garden, and small construction and industrial equipment. This service will include: (1) clutch service; (2) transmission service; (3) transaxle service; (4) reduction gears and differentials; (5) hydrostatic drives. (2-6) 4
- PME 5421 OUTBOARD POWERHEAD SERVICE:** Upon completion of this course the student will have serviced the powerhead assembly on at least two types of outboard motors. This service will include: (1) powerhead removal and replacement; (2)

powerhead disassembly and reassembly; (3) cylinder service; (4) piston, connecting rod, and crankshaft service; (5) bearing and seal service. P.R. None. (2-6) 4

PME 5423 STERN DRIVE SERVICE: Upon completion of this course the student will have serviced at least two different types of stern drives. This service will include: (1) gear housing service; (2) gimbal housing and bearing service; (3) tilt trim service; (4) direct drive service; (5) cooling and lubrication. (2-6) 4

POLITICAL SCIENCE

POL 1502 AMERICAN POLITICS: The student will employ a "systems approach" to analyze the three branches of American national government and the ways in which they interact with each other, and with political parties, interest groups, and the electorate in political decision-makings. (5-0) 5

POL 1510 INTRODUCTION TO COMPARATIVE POLITICS: The student will employ a "systems approach" to compare and contrast decision-making in several Western and non-Western, industrial and less developed, democratic and authoritarian political systems. (5-0) 5

POL 1511 INTRODUCTION TO INTERNATIONAL RELATIONS: The student will identify and analyze patterns in relations among nations, and explain the effects on international relations of differing national perspectives, "power," international law, international organizations, the "balance of power" and the "balance of terror." (5-0) 5

POL 2301 MID EAST POLITICS: Upon successful completion of this course the student will be able to define the Middle East as a unique political force in world politics; analyze and compare individual political systems of the Mid-East; explain U.S. — Arab and U.S. — Israeli relations and identify at least 2 socio-economic problems of world politics rooted in this area. (3-0) 3

POL 2500 STATE AND URBAN POLITICS: The students will utilize a "systems approach" to analyze political decision-makings in the states and urban areas, emphasizing in their analysis: changing relations between the federal government, states, and cities; the decline of southern sectionalism and big city political machines, the rise of suburban areas, citizen action groups, and new forms of metropolitan government. (5-0) 5

POL 2501 POLITICAL IDEOLOGIES: Course description: Student will explain the functions of political ideology, and describe the beliefs and practice of communism, socialism, fascism, capitalism, and democracy in the politics and socio-economic structure of various nations. (5-0) 5

POL 2104-2504 SPECIAL TOPICS IN POLITICAL SCIENCE: The student will examine particular topics of political interaction and decision-making in areas not covered in standard courses. Topics' course objectives vary with the subject matter studied. (1 to 5 hrs. class/week) (1 to 5 hrs. credit).

GRAPHIC ARTS

PRN 4311 PRINTING SALES: Upon completion of this course the student will be able to: (1) plan and prepare for a sales interview with a client; (2) describe proper procedures in dealing with a client and associates in the printing industry; (3) describe the system of selling by objectives; (4) describe the importance of physical fitness and proper grooming; (5) write effective business letters; (6) describe the proper use of audio-visuals in selling; (7) demonstrate a familiarity with the printing processes, printing supplies, trade customs and ethics; (8) describe proper procedures for credit collections. P.R. None. (3-0) 3

PRN 4337 COLOR SEPARATION TECHNIQUES AND THEORY: Upon completion of this course the student should be able to: (1) describe the effect of dot size and half-tone techniques on the reproduction of half-tones; (2) discuss three characteristics which demonstrate the importance of the densitometer; (3) discuss the function of masking, masking materials, exposure procedures, mask sharpness, and mask aim points; (4) describe the importance of and procedures used in color corrections. P.R. 5336. (3-0) 3

PRN 4354 PRINTING ESTIMATING II: (A continuation of PRN 5303). Upon completion of this course the student should be able to: (1) complete job estimates using the costing method; (2) demonstrate knowledge of the estimator's pricing catalogs, related tools and resources. P.R. PRN 5303 or permission of the Program Director. (3-0) 3

PRN 4390 INDIVIDUAL STUDY: This is being offered to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other courses during the second year of study. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. P.R. PRN 5365, PRN 5314, PRN 5424. (3-0) 3

PRN 5113 ORIENTATION TO CO-OP: Upon completion of this course, the student will have: (1) demonstrated ability to complete a job application form; (2) described acceptable practices for participating in a job interview; (3) listed several good work habits; and (4) discussed acceptable procedures and practices for keeping and getting ahead on the job. P.R. None. (1-0) 1

PRN 5206 COOPERATIVE LAB I: Upon completion of this course the student should be able to: (1) apply the skills learned in the classroom and graphic arts lab to actual working situations in the graphic arts industry. P.R. PRN 5113 and permission of the Program Director. (0-20) 2

PRN 5207 COOPERATIVE LAB II: (A continuation of PRN 5206). P.R. PRN 5206 or PRN 5700 and permission of the Program Director. (0-20) 2

PRN 5301 PRINTING MANAGEMENT: Upon completion of this course the student should be able to: (1) describe the structure of the management levels in a company; (2) discuss the importance of coordinating the elements of a job and keeping the customers informed as to the status of their job in the plant; (3) describe production control, proper purchasing of supplies, quality control and material handling. P.R. None. (3-0) 3

PRN 5303 PRINTING ESTIMATING I: Upon completion of this course the student will be able to: (1) compute paper and ink costs; (2) copy fit type for a job; (3) compute cost of producing a negative, plate, printing and bindery for a given job. P.R. PRN 5315, PRN 5425, PRN 5435 or permission of Program Director. (3-0) 3

PRN 5310 PAPER AND INK: Upon completion of this course the student should be able to: (1) distinguish the characteristics of the major classifications of paper and other substrates; (2) describe how paper and ink are manufactured and distributed; (3) describe and give solutions to paper and ink related problems on the press; (4) select paper and ink properly matched to the customers' specifications. P.R. None. (3-0) 3

PRN 5313 TYPESETTING: Upon completion of this course, the student should be able to: (1) describe the requirements of good composition; (2) trace the foundational developments of typesetting; (3) operate a modern photo typesetter and produce quality photo type; (4) perform maintenance operations on a modern photo typesetter; (5) produce quality photo display type; (6) describe future trends in typesetting. P.R. None. C.R. SEC 3404. (2-2) 3

PRN 5314 PROCESS CAMERA I: Upon completion of this course the student should be able to: (1) describe the purpose and function of photomechanical photography and its equipment and materials; (2) set up and operate a functional darkroom shooting line and halftone copy; (3) use a densitometer, the PMT process and process photography filters. P.R. None. (2-2) 3

PRN 5315 PROCESS CAMERA II: (A continuation of PRN 5314). Upon completion of this course the student should be able to: (1) shoot line and halftone copy of a more difficult nature; (2) do special effects photography including duotones, dropout halftones, set-ins and mezzotints; (3) properly screen color separations. P.R. PRN 5314. (2-2) 3

PRN 5316 PRODUCTION SCREEN PRINTING: Upon completion of this course, the student should be able to: (1) use correctly all the basic materials of screen printing; (2) prepare hand-cut film stencils, photo direct and photo indirect stencils; (3) print on at least three different surfaces; (4) describe the differences in the technique and materials used in printing on different materials; (5) describe the different uses of screen printing; (6) describe the use of machines and automated equipment in industrial screen printing. P.R. PRN 5314. (2-2) 3

PRN 5336 COLOR REPRODUCTION: Upon completion of this course the student should be able to: (1) describe the fundamentals in the basic color separation; (2) describe techniques for color correction; (3) list the progressive phases of producing process color through press operation. P.R. PRN 5435, PRN 5315 and PRN 5425. (3-0) 3

PRN 5364 FUNDAMENTALS OF OFFSET PRINTING: This course is designed to give Commercial Art students a basic understanding of offset lithography through hands on experience producing a simple self-promotional folder. P.R. VCO 4304, VCO 4305, VCO 4414 and VCO 4415. (1-4) 3

PRN 5365 STRIPPING I AND PLATEMAKING: Upon completion of this course, the student should be able to: (1) describe the various methods of image assembly of film negatives or positives into stripping flats; (2) prepare a basic unlined goldenrod flat; (3) prepare spreads and chokes; (4) strip line and halftone negatives; (5) add register masks, rules, borders and screen tints to a flat and/or negative; (6) describe procedures for processing wipe-on, deep etch, bi and tri-metal and camera plates; and (7) expose and process various types of additive and subtractive plates. P.R. None. (2-2) 3

PRN 5390 INDIVIDUAL STUDY: This will provide students with the opportunity to develop a special program of studies to fit a particular need not met by other courses. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and Department Head is required. P.R. PRN 5365, PRN 5314, PRN 5424. (3-0) 3

PRN 5400 INTRODUCTION TO GRAPHIC ARTS: Upon completion of this course the student should be able to: (1) list and describe the major printing processes; (2) describe the phases a piece of printing goes through in production process; (3) describe the duties performed by those employed at various stages of production, management and sales; (4) describe the graphic arts industry in the local area. P.R. None. (3-2) 4

PRN 5401 COPY PREPARATION: Upon completion of this course, the student should be able to: (1) produce camera ready paste-up copy; (2) use the common tools and materials found in copy preparation; (3) describe the equipment and processes used in typesetting; (4) know the basics of typography. P.R. None. (2-4) 4

PRN 5424 OFFSET PRESS I AND BINDERY: Upon completion of this course the student should be able to: (1) describe and perform procedures in press make-ready including determining correct measurements for packing, mounting of plates and blankets; (2) set the feeder, delivery, dampener rollers, ink, fountain solution, and PH; (3) operate duplicator to produce a satisfactory printed piece; (4) identify and describe the various types of bindery operations including book bindery, finishing operations in packaging, padding and other general bindery procedures. P.R. None. (2-4) 4

PRN 5425 OFFSET PRESS II: (A continuation of PRN 5424). Upon completion of this course, the student should be able to: (1) operate a full size offset press; (2) identify and correct problems during press run; (3) control the register of color printing. P.R. PRN 5424. (2-4) 4

PRN 5435 OFFSET STRIPPING II: (A continuation of PRN 5365). Upon completion of this course, the student should be able to: (1) set up a flat using register pins; (2) make composite negatives for full size press; (3) strip duotones and four color process work. P.R. PRN 5365. (2-4) 4

PRN 5700 PRINTING APPLICATIONS I: Upon completion of this course, the student will have attained additional skills in the following areas: (1) layout and paste-up of mechanical art; (2) planning a detailed method of production; (3) shooting line, halftone and special effects copy; (4) stripping; (5) making plates; (6) operating press and bindery equipment. The student will produce commercial quality printed pieces. P.R. PRN 5315, PRN 5401, PRN 5425, PRN 5435, PRN 5113, and the permission of the Program Director. (2-15) 7

PRN 5704 PRINTING APPLICATIONS II: (A continuation of PRN 5700 Printing Applications I). Upon completion of this course, the student will have successfully completed tasks of a more complex nature in the following areas: (1) layout and paste-up of mechanical art; (2) planning a detailed method of production; (3) shooting line, halftone, and special effects copy; (4) stripping; (5) making plates; and (6) operating press and bindery equipment. The student will produce commercial quality printed pieces. P.R. PRN 5700 and permission of the Program Director. (2-15) 7

LAW ENFORCEMENT

PSC 3500 INTRODUCTION TO CRIMINOLOGY: Upon completion of this course the student should be able to: (1) identify and describe the major theories of crime causation; (2) identify and describe the major crime prevention programs; (3) identify and describe the major treatment programs; and (4) identify the major researchers in the field of criminology. P.R. None. (5-0) 5

PSC 3501 INTRODUCTION TO LAW ENFORCEMENT: Upon completion of this course the student should be able to: (1) identify at least 80 major concepts related to the history of law enforcement; (2) identify the purpose of at least 25 law enforcement agencies operating in North Carolina; (3) from a list of at least 18 specific crimes, identify the law enforcement agency with jurisdiction; (4) recognize at least 34 current practices of law enforcement agencies and/or personnel; and (5) identify the purpose of at least 10 federal law enforcement agencies. P.R. None. (5-0) 5

PSC 3504 CRIME SCENE TECHNOLOGY: Upon completion of this course the student should be able to: (1) protect life and property at a crime scene; (2) protect, preserve and photograph a crime scene; (3) search the crime scene for evidence; (4) locate, collect, and identify physical evidence; (5) maintain chain of custody in handling of physical evidence; (6) demonstrate proficiency in the use of specialized equipment in collecting, identifying and processing physical evidence. P.R. None. (4-2) 5

PSC 3510 CRIMINAL LAW: Upon completion of this course the student will have had a practical approach to the substantive law and should have a sound introduction to legal theory; have a basic knowledge of the common law; identify and define

elements of crimes; understand how basic concepts function to determine the law; and be able to identify and define legally recognized defenses. P.R. None. (5-0) 5

PSC 3514 POLICE ORGANIZATION AND ADMINISTRATION: Upon completion of this course the student should be able to: (1) depict the organization of a police agency within the guidelines of sound organizational principles; (2) recognize effective administrative functions; (3) formulate a budget; and (4) write a staff study, emergency plan, standard operating procedure and a general order. P.R. None. (5-0) 5

PSC 4310 SELF-DEFENSE AND WEAPONRY: Upon completion of this course the student should be able to: (1) demonstrate firing proficiency with the police service revolver, including prescribed safety procedures; (2) demonstrate self-defense procedures utilizing police methods; and, (3) demonstrate proficiency in the use of the baton and proper utilization of handcuffs. P.R. None. (1-4) 3

PSC 4501 CONSTITUTIONAL LAW: Upon completion of this course the student should be able to identify, define and apply statutory rules and standards in the area of arrest, search and seizure; and possess an understanding of the landmark cases under the state and federal constitutions, particularly the Fourteenth Amendment. P.R. None. (5-0) 5

PSC 4503 LAW ENFORCEMENT PSYCHOLOGY: Upon completion of this course the student should be able to: (1) identify the most common psychological demands, effects and effects of the law enforcement function on the officers and their families; (2) identify the most common procedures of selection, retention and promotion of police officers; (3) identify major methods of obtaining information; (4) identify the major methods employed in deception; (5) identify common principles of dealing with and controlling people (7) identify the behavioral characteristics of abnormal people commonly encountered by police officers; and (8) know the remedial services that are available. P.R. None. (5-0) 5

PSC 4504 CRIMINAL PROCEDURE AND RULES OF EVIDENCE: Upon completion of this course the student should be able to: display and demonstrate workable knowledge and skill in criminal procedure and rules of evidence, and demonstrate a generally desired and accepted practice of courtroom decorum. Such would include North Carolina Code of Pretrial Criminal Procedure, Appellate Review, the role of the presiding judge, judicial notice, impeachment and corroboration, eximination, competency and privilege in general, transactions with persons since deceased or insane, circumstantial evidence, character, real evidence, evidence illegally obtained, opinion, expert testimony, hearsay, admissions, confessions, burden of proof and presumptions. P.R. PSC 3510 and PSC 4501 or consent. (5-0) 5

PSC 4505 CRIMINAL INVESTIGATION: Upon completion of this course the student should be able to: (1) maintain an accurate notebook; (2) define the accepted procedures for interviews, interrogations, admissions, confessions and written statements; (3) define the accepted procedures for developing and maintaining informants; (4) identify sources of information; (5) define accepted procedures for undercover operations and surveillance; (6) define accepted procedures for the investigation of specific offenses; (7) define specific forensic procedures and applications; and (8) identify laws and case laws applicable to criminal investigation. (5-0) 5

PSC 4510 POLICE OPERATIONS: Upon completion of this course the student should be able to: (1) define the purpose of police patrols; (2) define the types of patrol; (3) define the types of communications; (4) define the accepted procedures for: observation, perception, note-taking, report-writing, identification and description of persons and property, field interrogation, stopping of vehicles and control of occupants, use of personal protective weapons, techniques and tactics by type of call; (5) perform a stop and frisk; and (6) complete an affidavit and search warrant. P.R. None. (4-2) 5

PSC 4511 ADMINISTRATION OF JUSTICE: Upon completion of this course the student should be able to: (1) construct a flow chart demonstrating the difference between the Federal, state, and local systems of criminal justice; (2) be able to identify and differentiate between the functions and responsibilities of law enforcement, courts and corrections; (3) identify and define the philosophical basis for the existence of the various components of the criminal justice system; (4) construct and demonstrate the feasibility of felony alert and disaster plans coordinating the units of the system. P.R. None. (5-0) 5

PSC 4515 POLICE MANAGEMENT: Upon completion of this course the student should be able to: (1) define at least 35 current functions of management; (2) identify at least 14 factors related to change within a police agency; (3) conduct a news conference, a meeting and a brainstorming session; and (4) write a job description. P.R. None. (5-0) 5

PSC 4520 PUBLIC RELATIONS: Upon completion of this course the student should be able to: (1) define the focus and overall purpose of public relations; (2) list 25 positive benefits of effective public relations for criminal justice agencies; (3) list 35 negative aspects of faulty public relations for criminal justice agencies; (4) define the power and influence of public opinion; (5) identify major problems in public relations as related to the criminal justice mission; (6) identify factors which foster effective and offensive public relations; (7) identify examples of conserving favorable public opinion; and (8) identify common ways of sampling public opinion. P.R. None. (5-0) 5

PSC SPECIALIZED TRAINING ELECTIVE: This offering is designed to teach a skill and/or knowledge critical to the public service mission. A number of electives will be offered each year. The student can select the course best suited to background, experience, future or current employment. Approval of the program director and department head is required. (3-0) 3

POSTAL SERVICE MANAGEMENT

PSM 3300 POSTAL SERVICE HISTORY AND ORGANIZATION: Upon successful completion of the course the student should be able to trace the delivery of written communication and merchandise from earlier eras to the present; depict and compare the private, corporate, and governmental agencies which have been responsible for mail service; define the current postal organization as mandated by Public Law 91-375; trace and explain postal philosophies, policies, procedures, rules and regulations of the current organization; and demonstrate an understanding of the history and organization of the Postal Inspection Service. (3-0) 3

PSM 3401 POSTAL SERVICE LABOR MANAGEMENT: This course presents an overview of laws and practices as related to Labor-Management in the Postal Service. Upon successful completion of the course the student should be able to discuss the development of labor unions of Postal Service employees with emphasis on the National and Local Agreements, the various bargaining units and associations in the U.S. Postal Service, the grievance procedures, the disciplinary action procedures, and the National Labor Relations Board. (3-2) 4

PSM 3404 MAIL PROCESSING I: Upon successful completion of the course the student should be able to explain and interpret the following mail classifications and rates, service standards, postal terminology, the four functions of mail processing, distribution systems, mail processing objectives and responsibilities, the mail preparation operation, manual distribution, revenue protection, and the bulk mail centers. (3-2) 4

PSM 3405 MAIL PROCESSING II: Upon successful completion of the course the student should be able to explain and inter-

pret postal mechanization, machine distribution, human resources management in mail processing, reporting systems and data analysis, operational planning, scheduling and staffing, budgeting, and functional coordination with customer services. (3-2) 4

PSM 4401 POSTAL SERVICE (SUPPORT) FINANCE: Upon successful completion of the course the student should be able to explain how postal revenue is received and controlled, procedures of the Board of Governors and the Postal Rate Commission, and the Postmaster General's Annual Report as well as budgeting, financial accounting and reporting, timekeeping, travel regulations, and Administrative Services. (3-2) 4

PSM 4420 POSTAL EMPLOYEE SERVICES: Upon successful completion of the course the student should be able to explain the functions of the Personnel Office in relation to the services it provides for postal employees including policies and practices concerning selection, placement, training, promotion of employees, self-development training programs, EEO practices; insurance and retirement benefits, awards programs, salary schedules, and safety and health. (3-2) 4

PSM 4421 POSTAL CUSTOMER SERVICES: This course is designed to provide the student with an in-depth knowledge of all services provided for postal customers. Upon successful completion of the course the student should be able to explain effective customer relations, retailing postal products, and non-postal services including professional window service operations and the duties of customer service representatives. (3-2) 4

PSM 4430 POSTAL DELIVERY AND COLLECTION: This course is designed to provide a functional knowledge of mail delivery and collection systems within the Postal Service through the use of two management training programs, "Method Improvement Plan/Standard Operating Procedures" and "Route Inspections and Evaluations." Upon completion of the course the student should be able to state and explain the duties, responsibilities and skills required in the Carrier Crafts and the Management of Rural Delivery Service. (3-2) 4

PSM 4431 POSTAL PROBLEM ANALYSIS: This course presents actual postal problems for analysis and solution. Upon successful completion of the course the student should be able to utilize the systematic approach to problem solving: identify the problem; determine and analyze the dimensions of the problem; assess adverse consequences of the problem; determine and analyze alternative solutions; and specify and defend the best solution to the problem. (3-2) 4

PHYSICAL THERAPIST ASSISTANT

PTH 3404 INTRODUCTION TO PHYSICAL THERAPY: Upon successful completion of this course, the student should be able to: (1) describe the development, preparation and roles of physical therapy personnel and services; (2) demonstrate awareness of physical therapy services appropriate to various clinical settings; (3) identify clinical conditions commonly treated by physical therapy services; (4) relate the variety and interrelationships of medical and paramedical disciplines in meeting patient needs; (5) demonstrate (a) basic aseptic techniques, (b) safe transfer techniques using proper body mechanics, (c) proper bed positioning of selected clinical conditions, and (d) the ability to obtain the vital signs of temperature, pulse, respiration and blood pressure. P.R. Acceptance into the Program. (3-0-3) 4

PTH 3515 APPLIED ANATOMY: Successful completion of this course will be demonstrated by the student's ability to: (1) describe and demonstrate major joint actions; (2) identify the major muscles of these actions, their bony attachments and nerves; (3) offer comparisons of expected strengths of joint actions; (4) identify physiological components of the central and peripheral nervous systems; and (5) identify the major nerve plexuses as to spinal cord origins and muscular distributions. P.R. BIO 1504, PTH 3404. (3-4-0) 5

PTH 3524 PHYSICAL THERAPY PROCEDURES I: Upon successful completion of this course, the student should be able to: (1) demonstrate orally and in writing a basic knowledge of (a) the different methods of heat transmission to the body, (b) basic physics and terminology of low and high frequency currents utilized in physical therapy, (c) the physical and physiological effects of heat, hot packs, low and high frequency currents, and (d) the rotation of expected physical/physiological effects and indications/contraindications of the modalities being studied; (2) demonstrate acceptable competence in the skill development laboratory through (a) use of good body mechanics, (b) performance of four therapeutic massage techniques, (c) application of hot packs alone and combined with other modalities, and (d) application of low and high frequency therapeutic currents. P.R. PTH 3404, BIO 1504. (3-0-6) 5

PTH 3525 PHYSICAL THERAPY PROCEDURES II: During carefully planned and closely supervised clinical experiences the student will successfully complete this course by demonstrating acceptable competence in: (1) utilization of good body mechanics while performing safe patient transfer and treatment; (2) application of procedures learned to date to include (a) hot packs alone or combined with other modalities, (b) massage techniques, and (c) low and high frequency therapeutic currents; (3) recognizing patient physiological/psychological responses to treatment as appropriate or inappropriate; and (4) expressing a basic understanding of (a) clinical departmental operational procedures, (b) specific patient diagnoses being treated, and (c) the interrelationships of health facility departments and personnel. P.R. PTH 3524, PTH 3515. (3-0-6) 5

PTH 3614 THERAPEUTIC EXERCISE: Upon completion of this course, the student should be able to: (1) identify the structural unit and recognize the physiological activities of muscle tissue; (2) relate neuromuscular function or dysfunction to a number of clinical conditions; (3) recognize the significance of joint range measurement and muscle strength evaluations for exercise programs; (4) utilize problem solving methods in determining appropriate exercise techniques or transfer and ambulation activities; (5) demonstrate the use of good body mechanics and proper patient safety measures in (a) a variety of exercise, transfer and ambulation activities, and (b) the correct application and use of appliances and equipment for patient exercise, transfer and ambulation procedures. P.R. PTH 3515, PTH 3524. (3-6-0) 6

PTH 4324 PSYCHOLOGY OF ADJUSTMENT: Successful completion of this course will be demonstrated by the student's ability to: (1) identify a variety of personality traits; (2) recognize the value of utilizing various coping mechanisms by both the sick and the well; (3) participate effectively in interpersonal relations as related to various stress situations; (4) demonstrate recognition of the need for behavioral adjustments by both the health worker and the patient; and (5) relate the experience of another in adjustment to a disability. P.R. PTH 3525, PSY 2504. (3-0-0) 3

PTH 4334 COMMUNITY HEALTH & WELFARE: Upon completion of this course the student should be able to: (1) describe a community of interest for problem solving; (2) define and offer appropriate examples of three categories of service agencies; (3) list and explain four phases of health care; (4) offer valid examples of governmental influences on the health and welfare system; (5) identify at least five referral resources usually available to meet patient needs; and (6) describe in detail the organization of and services provided by one community agency. P.R. PTH 4627 (3-0-0) 3

PTH 4344 SEMINAR IN PHYSICAL THERAPY PROCEDURES: Successful completion of this course will be demonstrated by the student's ability to: (1) locate and utilize appropriate reference material; (2) organize pertinent information in a logical, sequential manner for presentation; (3) present case studies, indicating the role of physical therapy; (4) prepare and present

progress notes in a prescribed form; (5) identify both positive and negative learning experiences encountered in clinical assignments. C.R. PTH 4704, PTH 4705. P.R. PTH 4728. (3-0-0) 3

PTH 4390 INDIVIDUAL STUDY: Upon completion of this course the student should be able to: meet the objectives outlined by the student and instructor to meet particular student needs not provided in other courses of study. P.R. Department Head Approval. (3-0-0) 3

PTH 4627 PHYSICAL THERAPY PROCEDURES III: In demonstration of successful completion of this course, the student will: (1) identify and explain the physiological effects, indications and contraindications of the use of cold, paraffin and hydrotherapy procedures; (2) demonstrate acceptable application of these same treatment procedures; (3) perform carefully planned and supervised patient care utilizing cold, paraffin and hydrotherapy measures as well as demonstrating increased competence in performance of all previously learned skills; and (4) show evidence of effective interpersonal relations and ethical conduct in the patient care setting. P.R. PTH 3525, PTH 3614. (3-0-9) 6

PTH 4704 CLINICAL EDUCATION I: During systematically planned and supervised clinical learning experiences in a local health care facility, the student will successfully complete this course by competently demonstrating the ability to: (1) accept the personal responsibilities of promptness, personal neatness and learning of departmental procedures and practices; (2) develop and maintain positive rapport with patients and staff; (3) provide assigned patient treatments competently, ethically and with efficient use of time; (4) communicate effectively with others; (5) relate theory and principles to treatments performed; and (6) utilize available time for learning and self-improvement. C.R. PTH 4705, PTH 4344. P.R. PTH 4728. (2-0-15) 7

PTH 4705 CLINICAL EDUCATION II: A continuation of Clinical Education I, with identical objectives in a clinical department away from Charlotte selected by the student from available facilities affiliating with the Program. C.R. PTH 4704, PTH 4344. P.R. PTH 4728. (2-0-15) 7

PTH 4728 PHYSICAL THERAPY PROCEDURES IV: Upon successful completion of this final procedures sequence course, the student should be able to: (1) demonstrate a knowledge of radiant heat, its physical and physiological effect, indications/contraindications; (2) employ radiant heat measures of infrared and ultraviolet in an acceptable manner; (3) demonstrate knowledge of, and competence in applying, all modalities and procedures learned in the Program, and interrelate these measures with specific clinical conditions; (4) give evidence of acceptable knowledge about neuromuscular structures and function; (5) demonstrate effective patient and staff interpersonal relationships and, (6) when performing supervised patient assignments, coordinate all learning experiences to date for safe, appropriate and ethical patient care. P.R. PTH 4627. (3-0-12) 7

PSYCHOLOGY

PSY 2500 EDUCATIONAL PSYCHOLOGY: Upon completion of this course the student will demonstrate a knowledge of learning, motivation, and development as they relate to classroom teaching. The student will also demonstrate a knowledge of testing, evaluation, and assessment. P.R. None. (5-0) 5

PSY 2504 GENERAL PSYCHOLOGY: An introductory course which may be taken in either a self-pace or conventional manner. Upon completion of this course the student will demonstrate a knowledge of the basic concepts of psychology, the use of these concepts as employed by the major theorists, and the practical and therapeutic application of these concepts. P.R. None. (5-0) 5

PSY 2505 HUMAN DEVELOPMENT: Upon completion of this course, the student will demonstrate a knowledge of the physical, psychological, social, and intellectual development of humans from conception to death. P.R. PSY 2504. (5-0) 5

PSY 2514 ABNORMAL PSYCHOLOGY: Upon completion of this course the student will be able to identify the major forms of mental illness as described in the DSM II, the etiology of mental illness, and the preferred methods of treatment. P.R. PSY 2504. (5-0) 5

PSY 2524 MENTAL RETARDATION: Upon completion of this course the student will demonstrate a knowledge of the biological, psychological, and sociological aspects of mental retardation. The student will also demonstrate knowledge of diagnosis, treatment, and education of the mentally retarded. P.R. PSY 2504. (5-0) 5

PSY 2536 SPECIAL PROBLEMS IN PSYCHOLOGY: A number of selected topics will be presented to the class for examination and evaluation. Each student will complete a research project in an area of special interest, upon approval by, and under the direction of the instructor. P.R. PSY 2504 and permission of the department head. (5-0) 5

PSY 3314 PRINCIPLES OF HUMANISTIC PSYCHOLOGY: Upon completion of this course the student will demonstrate a knowledge of what constitutes a healthy personality from the major humanistic theorists. (3-0) 3

PEER TUTORING

PTL 9000 PEER TUTORING LAB: Is designed to provide the opportunity for students to receive help from other students with tutoring in their course work plus additional instruction in study skills. The goal is to increase efficiency and effectiveness in academic endeavors of both persons involved. Tutoring is available in a majority of our course areas. (0-3) 0

READING

RDN 9312 SPEED READING: An individualized, self-paced course designed to meet the needs of students and lay and professional members of the community who want to increase speed in reading. The minimum requirement: Upon successful completion of this course, the learner will demonstrate a 100 % increase in reading rate while maintaining an 80 percent level of comprehension as assessed by a standardized reading test. (3-2) 3

RDN 9505 READING SKILLS: This individualized course in reading is designed for the adult who needs fundamental skill development to understand and learn from written material. Upon completion the student will demonstrate mastery of basic vocabulary, comprehension, and study skills. (5-0) 5

RDN 9510 READING IMPROVEMENT: At completion of this individualized, self-paced course, the learner will demonstrate abilities: (1) to choose and implement a system for long-range vocabulary development; (2) to find main ideas in given passages, to draw inferences from those ideas, and to evaluate conflicting ideas to discover bias; (3) to study-read a college textbook. (5-0) 5

REAL ESTATE

RES 3360 REAL ESTATE PROPERTY MANAGEMENT: Upon successful completion of this course the student should have an understanding of the principles of management of investment property, with emphasis on apartments, office buildings and retail stores; be familiar with market studies, management policies and lease contracts; and be able to describe the objec-

tives of property management, functions of a property manager and specific duties which must be performed with responsibilities to owner, tenants and community. P.R. RES 3460 or RES 3465 or real estate license or approval by department head.

(3-0) 3

RES 3364 RESIDENTIAL REAL ESTATE APPRAISAL I: This course and RES 3365 prepare the student to appraise competently. Upon successful completion of this course the student should be able to demonstrate understanding of the nature and purpose of appraisal, real property and value and economic principles affecting value; describe and discuss the appraisal process; state sources of appraisal data and information; outline a narrative appraisal report; and demonstrate understanding of making neighborhood and site analysis and site valuations. P.R. RES 3460 or RES 3465 or real estate license or approval by department head.

(3-0) 3

RES 3365 RESIDENTIAL REAL ESTATE APPRAISAL II: Upon successful completion of this course the student will be able to demonstrate an understanding of residential styles, functional utility and building cost estimating; solve problems in estimating accrued depreciation; estimate market value by the market data approach, cost approach and gross rent multiplier approach; reconcile value indications; and prepare a form appraisal. P.R. RES 3364.

(3-0) 3

RES 3460 REAL ESTATE SALESMAN LICENSING: This course qualifies the student to take the state licensing exam and become a salesperson. Upon successful completion of this course the student should demonstrate basic knowledge and skills in the following major topic areas: the real estate licensing law and the rules and regulations of the licensing board; a practical and working knowledge of the real estate business, including fundamentals of real estate, real estate finance, real estate brokerage, real estate appraising, real property law and mechanics of closing. P.R. NONE.

(4-0) 4

RES 3464 REAL ESTATE BROKER LICENSING I: Upon successful completion of this course the student will have basic knowledge and skills in the following major topic areas: the real estate business and market; property ownership and interests; real estate contracts; real estate brokerage; transfer of title; fair housing legislation; and solving practical real estate arithmetic problems. P.R. NONE.

(4-0) 4

RES 3465 REAL ESTATE BROKER LICENSING II: This course along with RES 3464 qualifies the student to take the State licensing exam and qualify as a broker. Upon successful completion of this course the student should have the basic knowledge and skills in the following major topic areas: real estate financing; leases; property management and insurance; residential building construction; property valuation; land use controls; tax implications; closing real estate transactions; and solving practical real estate arithmetic problems. P.R. RES 3464 or real estate license or approval by department head.

(4-0) 4

RES 4364 LAND USE PLANNING AND ZONING: Upon successful completion of this course the student should be acquainted with the functions of the Charlotte-Mecklenburg Planning Commission and the City and County Zoning Departments; familiar with the interpretation, application and enforcement of zoning ordinances; and able to solve practical problems in developing land, altering uses of or improvements on land and obtaining zoning changes. P.R. NONE.

(3-0) 3

RES 4365 REAL ESTATE MARKETING: This course offers the student practical techniques in the mechanics and the personal aspects of negotiating real estate sale-purchase transactions. Upon successful completion of this course the student will develop the ability to set listing and sales objectives and manage personal time and efforts to achieve the objectives. The student will thereby gain confidence in, and enthusiasm for, working in real estate sales in such a way as to serve the needs and desires of clients and customers efficiently and effectively. P.R. RES 3465 or current N. C. Real Estate License or consent of department head.

(3-0) 3

RES 4366 REAL ESTATE FINANCE: This course covers brokerage functions involved in negotiating financed purchases of existing residences. Upon successful completion the student should have a working knowledge of the principal features of currently available conventional and government-aided purchase-money mortgage loans and the sources of loan funds; and be able to estimate costs of sale, costs of purchase and loan payments, prepare financial packages for guiding sellers and buyers, prequalify buyers financially, and assist buyers to obtain suitable financing. P.R. RES 3464 and RES 3465 or real estate license or approval by department head.

(3-0) 3

RES 4367 INCOME REAL ESTATE APPRAISAL I: This course and RES 4368 familiarize the student with the income approach to estimating market value. Upon successful completion of this course the student should be able to demonstrate an understanding of estimating gross income, operating income and net income to a property; solve problems in extracting interest and capitalization rates from market data; calculate value by four major 100% equity methods; and calculate and use compound interest functions in appraisal problems. P.R. RES 3460 or RES 3465 or real estate license or approval by department head.

(3-0) 3

RES 4368 INCOME REAL ESTATE APPRAISAL II: Upon successful completion of this course the student will be able to use mortgage-equity methods for capitalizing income streams and reversions into estimates of market value. These methods take into account the effects of available purchase-financing on value, and deal with both regular and variable projected income streams. They include provision for risk, tax effects and inflation. P.R. RES. 4367.

(3-0) 3

RES 4374 REAL ESTATE INVESTMENT: Upon successful completion of this course the student should be able to demonstrate an understanding of the fundamentals of real estate investment; explain the principal reasons for selecting real estate as an investment; show how federal income and capital gains taxes affect real estate investment yields; and apply discounted cash flow analysis to investment possibilities. P.R. RES 3460 or RES 3465 or real estate license or approval by department head.

(3-0) 3

RES 4375 INDUSTRIAL REAL ESTATE: Upon successful completion of this course the student should be able to describe the nature of and operations in the industrial real estate market and how the broker participates in it successfully. P.R. RES 3460 or RES 3465 or real estate license or approval by department head.

(3-0) 3

RES 4376 REAL ESTATE LAW: Upon successful completion of this course the student should be able to demonstrate an understanding of the application of major aspects of law to real estate transactions and describe the legal aspects of actions undertaken from the time of listing of a property through the closing of escrow. P.R. RES 3460 or RES 3465 or real estate license or approval by department head.

(3-0) 3

RESPIRATORY THERAPY

RTH 3304 PATHOLOGY AND PHYSICAL DIAGNOSIS: Upon completion of this course the student should be able to: (1) recognize abnormalities of the head, neck, and thorax gathered from inspection; (2) use a stethoscope; (3) distinguish and identify abnormal breath sounds using a stethoscope and from auscultation, differentiate various pulmonary diseases; (4) explain the pathology of chronic obstructive pulmonary diseases; (5) list the various types of pulmonary carcinomas; (6) discuss the physiologic alterations of the lung caused by extra-pulmonary sources; (7) explain and list conditions of the nervous system which could lead to respiratory failure. P.R. None.

(2-2-0) 3

RTH 3305 RESPIRATORY PHARMACOLOGY: Upon completion of this course the student should be able to: (1) use current reference standards; (2) read and interpret a prescription; (3) compute dosages, determine ratios and percents, and prepare solutions for aerosol administration; (4) describe the mechanism of actions of airway dilators; (5) describe the mechanism of action of mucokinetic substances, their preparation, and methods of administration; (6) describe and prepare antibiotics used in the treatment of pulmonary infections; (7) explain the pharmacologic effects of drugs commonly seen in adverse situations; (8) explain the mechanism of action and list commonly used muscle relaxants; (9) explain the mechanism of action and list commonly used drugs affecting central respiratory centers including commonly encountered drugs producing sedation, hypnosis, anesthesia, and stimulants; (10) describe the use of oxygen as a drug, its mechanism of transport, indications, effects on vital functions, cellular and biochemical effects of oxygen toxicity and prevention of oxygen toxicity; (11) diagram or otherwise discuss normal renal function and explain the mechanism of action of commonly used diuretics. P.R. Nane

(3-0-0) 0

RTH 3714 RESPIRATORY THERAPY PROCEDURES I: Upon completion of this course the student should be able to: (1) assemble, operate and apply equipment used to administer aerosol therapy; (2) compute, deliver and analyze the fractional concentration of oxygen in any air-oxygen mixture; (3) explain the principles of operation and use equipment to administer intermittent positive pressure breathing; (4) position patients and perform basic techniques of pulmonary drainage; (5) use tools and testing equipment required in routine maintenance of Respiratory Therapy equipment; (6) disassemble and correctly reassemble equipment used in the administration of intermittent positive pressure breathing. P.R. RTH 3807.

(3-2-9) 7

RTH 3805 RESPIRATORY THERAPY PROCEDURES II: Upon completion of this course the student should be able to: (1) read and interpret results for arterial blood gas analysis; (2) monitor correctly all parameters of continuous ventilation; (3) recognize and use artificial airways; (4) manage the airways of patients requiring artificial airways; (5) complete a comparative assessment of manual resuscitators; (6) obtain and interpret a basic expiogram. P.R. RTH 3714.

(3-4-9) 8

RTH 3807 INTRODUCTION TO RESPIRATORY THERAPY: Upon completion of this course the student should be able to: (1) recognize the major developments in Medicine & Science as they relate to the historical aspects of Respiratory Therapy; (2) list and describe the professional and accrediting organizations; (3) explain the roles and responsibilities of the different levels of individuals employed in Respiratory Therapy; (4) use the English and Metric systems of measurement interchangeably; (5) define and use medical terms; (6) read a patient chart; (7) correct gases for changes in volume, pressure and temperature; (8) assemble, operate and apply equipment used to administer medical gas therapy. P.R. Admission to Respiratory Therapy Program.

(4-4-6) 8

RTH 4204 INTRODUCTION TO PULMONARY FUNCTIONS: Upon completion of this course, the student should be able to: (1) draw and label a normal expiogram; (2) use water and electronic spirometers to obtain expiograms; (3) define the following volumes: tidal, inspiratory reserve, expiratory reserve, and residual; (4) define the following capacities: inspiratory, functional residual, vital and total lung; (5) state the significance of variations from normal of those volumes and capacities; (6) determine the normal values for given patients utilizing nomograms and formulae; (7) explain the usefulness of timed expiratory maneuvers; (8) interpret various expirographic tracings as to restrictive and obstructive lung disease. P.R. RTH 4814.

(2-0-0) 2

RTH 4504 PULMONARY FUNCTION I: Upon completion of this course, the student should be able to: (1) determine functional residual capacity measurements; (2) measure oxygen uptake; (3) measure the volume of dead space and tidal volume, establish a ratio, and state significance of same; (4) obtain arterial blood from indwelling arterial lines; (5) calibrate, analyze and change the membranes on selected blood gas analyzers; (6) use a co-oximeter; (7) obtain and interpret a flow-volume loop. P.R. RTH 4204, C.R. RTH 4605.

(2-0-9) 5

RTH 4605 PULMONARY FUNCTION II: Upon completion of this course the student should be able to: (1) determine functional residual capacity measurements; (2) measure oxygen uptake; (3) measure the volume of dead space and tidal volume, establish a ratio, and state significance of same; (4) obtain arterial blood from indwelling arterial lines; (5) calibrate, analyze and change the membranes on selected blood gas analyzers; (6) use a co-oximeter; (7) obtain and interpret a flow-volume loop. P.R. RTH 4204, C.R. RTH 4504.

(2-2-9) 6

RTH 4606 CLINICAL APPLICATION I: Upon completion of this course the student should be able to: (1) provide respiratory care to patients in an intensive critical care unit; (2) participate in emergency situations while maintaining an airway and breathing for the patient; (3) provide intensive respiratory care to the infant and pediatric patient; (4) discuss the role of supervisory personnel; (5) write procedures for the various applications of respiratory care; (6) organize and provide instruction to medical personnel specific topics in respiratory care; (7) participate in a program of cardiorespiratory rehabilitation; (8) become certified by the AHA as an instructor in CPR. P.R. RTH 4504. C.R. RTH 4607.

(2-0-12) 6

RTH 4607 CLINICAL APPLICATION II: Upon completion of this course the student should be able to: (1) provide respiratory care to patients in an intensive critical care unit; (2) participate in emergency situations while maintaining an airway and breathing for the patient; (3) provide intensive respiratory care to the infant and pediatric patient; (4) discuss the role of the supervisory personnel; (5) write procedures for the various applications of respiratory care; (6) organize and provide instruction to medical personnel on specific topics in respiratory care; (7) participate in a program of cardiorespiratory rehabilitation; (8) become certified by the AHA as an instructor in CPR. P.R. RTH 4504. C.R. RTH 4606.

(2-0-12) 6

RTH 4715 EQUIPMENT FOR CONTINUOUS VENTILATION: Upon completion of this course, the student should be able to: (1) classify selected ventilators; (2) discuss compliance and how it relates to ventilator performance; (3) list and describe the cycling mechanism and mode of operation of selected ventilators; (4) trace gas flows from power source to patient in selected ventilators; (5) identify common malfunctions and proper corrective measures in selected ventilators; (6) identify ports of selected ventilators which can be sterilized and list the best method of sterilization for that particular port; (7) list testing procedure for selected ventilators prior to patient use. P.R. RTH 4814 and PHY 3414. C.R. RTH 4724.

(1-4-12) 7

RTH 4724 CONTINUOUS VENTILATION: Upon completion of this course the student should be able to: (1) list indications for using mechanical ventilation; (2) given flow and pressure patterns, identify the type ventilator exemplified; (3) list clinical situations requiring the use of volume controlled ventilators; (4) explain the indication and procedures for weaning patients from ventilators; (5) explain the indications and procedures for establishing intermittent mandatory ventilation, positive end expiratory pressure, expiratory resistance and inspiratory plateau; (6) interpret arterial blood gas analysis and make appropriate ventilator changes to correct adverse results. P.R. RTH 4814, C.R. RTH 4715.

(3-0-12) 7

RTH 4814 INTRODUCTION TO EMERGENCY AND INTENSIVE RESPIRATORY CARE: Upon completion of this course the student should be able to: (1) modify and use oxygen and aerosol administration devices to deal with specific adverse situations; (2) modify and use selected IPPB devices to deal with specific adverse situations; (3) modify patient positions for bronchopulmonary drainage to accommodate specific patient conditions; (4) perform endotracheal intubation on an adult and infant model; (5) administer oxygen and aerosol therapy to infants; (6) obtain an arterial blood sample for analysis; (7) become certified by the AHA as a basic rescuer. P.R. RTH 3805.

(2-4-12) 8

SECRETARIAL SCIENCE

- SEC 3101 SHORTHAND REVIEW A:** The student will review some principles of Gregg shorthand, some brief forms, and phrases. The student will also be given some practice in reading, writing, and elementary transcription of shorthand. P.R. None. (0-2) 1
- SEC 3104 SHORTHAND REVIEW B:** A continuation of SEC 3101 — Shorthand Review A. The student will complete the review of all principles of Gregg shorthand, brief forms, and phrases with greater emphasis on dictation and transcription. P.R. SEC 3101. (0-2) 1
- SEC 3200 SHORTHAND REVIEW:** This course is designed to review and reinforce all theory of Gregg shorthand including brief forms and phrases. Emphasis will be placed on dictation at varying speeds, as well as review of the fundamentals of English grammar. P.R. Successful completion of one year of high school shorthand or two quarters (one semester) of college shorthand. (0-4) 2
- SEC 3201 TYPING — SKILL BUILDING:** This course is designed to provide an intensive review of the keyboard, typing techniques, posture, simple business letters, manuscripts (reports), and tabulation (columnar) through a series of typing exercises and production applications. P.R. Successful completion of one year of secondary level typing or 2 quarters (one semester) of postsecondary level typing. (1-2) 2
- SEC 3301 LEGAL TERMINOLOGY AND VOCABULARY:** The student will receive an intensive course of study in legal terminology and vocabulary including definitions, usage, derivations and spelling. P.R. None. (3-0) 3
- SEC 3304 OFFICE MACHINES:** The student will learn techniques, processes, and operations of ten keyboard printing and display calculators and applications of the above to business type problems. The student will also learn to operate the stencil and spirit duplicators. P.R. FIN 3314 and SEC 3404. (2-2) 3
- SEC 3320 PERSONALITY DEVELOPMENT:** The student will learn to recognize the importance of the physical, intellectual, social and emotional dimensions of personality. Emphasis will be placed on grooming and methods of personality improvements. P.R. None. (3-0) 3
- SEC 3404 TYPING I:** The student will learn to type with emphasis on correct technique, mastery of the keyboard, simple business correspondence, and tabulation. Speed requirement: 25 words per minute for 5 minutes. Proficiency test may be taken for this course. P.R. None. (3-2) 4
- SEC 3405 TYPING II:** The student will develop further mastery of correct type writing techniques to be applied in tabulations, manuscripts and business letters. The course is individualized and employs self-pacing methods. Speed requirement: 35 words per minute for 5 minutes. P.R. SEC 3404 or equivalent. Proficiency test may be taken for this course. (3-2) 4
- SEC 3406 TYPING III:** The student will begin to function as an expert typist producing mailable copies. The production units will involve tabulations, manuscripts, correspondence and business forms. Individualized and self-instructional methods are employed. Speed requirement: 45 words per minute for 5 minutes. P.R. SEC 3405 or equivalent. (3-2) 4
- SEC 3414 SHORTHAND I:** The student will learn Gregg shorthand theory and will practice reading and writing shorthand. The emphasis will be on phonetics, penmanship, word families, brief forms and phrases. Proficiency test may be taken for this course. P.R. None. (3-2) 4
- SEC 3415 SHORTHAND II:** The student will continue to study and review Gregg Shorthand theory with greater emphasis on dictation and elementary transcription. Upon successful completion of this course, the student will be able to take a minimum dictation rate on new material of 60 words a minute for 3 minutes. P.R. SEC 3414, COM 1304 or the equivalent. Proficiency test may be taken for this course. (3-2) 4
- SEC 3416 SHORTHAND III:** The student will continue to review Gregg Shorthand theory and to build speed. Emphasis will be on development of speed in dictation and accuracy in transcription. Upon successful completion of this course, the student will be able to take a minimum dictation rate on new material of 80 words a minute for 3 minutes, and will be introduced to mailable letters of 70 words a minute. P.R. SEC 3415 or equivalent, COM 3315. Proficiency test may be taken for this course. (3-2) 4
- SEC 3424 MEDICAL TRANSCRIPTION I:** The student will complete production units on the typewriter from dictation-transcription machines of medical correspondence and documents such as case histories, articles, and hospital reports. P.R. SEC 3406. (2-4) 4
- SEC 4305 BUSINESS COMMUNICATIONS:** The student will review grammar and punctuation skills and develop effective techniques for handling the special requirements of business letters and other forms of business communications. P.R. COM 1314 and COM 3315. (3-0) 3
- SEC 4310 VOCABULARY BUILDING:** The student will develop proficiency in spelling, word usage, business terminology, and intelligent use of the dictionary. P.R. None. (3-0) 3
- SEC 4370 RECORDS MANAGEMENT:** The student will learn the fundamentals of indexing and filing. Theory and practice will be combined by the use of miniature letters, filing boxes and guides. Topics studied will include alphabetic name, geographic, subject and numerical filing. P.R. None. (3-0) 3
- SEC 4406 MEDICAL SHORTHAND:** The student will learn to construct medical shorthand outlines, take dictation using medical terminology and will develop the ability to transcribe such dictation. P.R. SEC 3416. (3-2) 4
- SEC 4407 TYPING IV:** The student will continue to increase speed and accuracy on straight copy and production typing. The primary purpose of this course will be to review the fundamental principles of typewriting as they apply to production work with special emphasis on unarranged and uncorrected material. Speed requirement: 55 words a minute for 5 minutes. P.R. SEC 3406. (3-2) 4
- SEC 4417 DICTATION AND TRANSCRIPTION I:** The student will develop the skills of taking dictation and transcribing material appropriate to a business office. Topics will include a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Upon successful completion of this course, the student will be able to take dictation at 90 words a minute for 3 minutes on new material. Much emphasis will be placed on transcribing shorter letters in mailable form. P.R. SEC 3416 or equivalent. (3-2) 4
- SEC 4418 DICTATION AND TRANSCRIPTION II:** The student will develop the accuracy, speed, and vocabulary to meet the stenographic requirements of business offices. Upon successful completion of the course, the student will be able to take dictation on new material of 100 words a minute for 3 minutes. Much emphasis will be placed on transcribing shorter letters in mailable form. P.R. SEC 4417. (3-2) 4

SEC 4426 WORD PROCESSING AND MACHINE TRANSCRIPTION: The student will transcribe various kinds of communication at the typewriter into mailable form. The student will understand the concepts of word processing and will be able to operate an editing typewriter. P.R. SEC 3406 and COM 3315. (3-2) 4

SEC 4448 LEGAL DICTATION AND TRANSCRIPTION: The student will develop the ability to take in shorthand and then transcribe rapidly and accurately legal documents, instruments, and correspondence. Shorthand shortcuts for the legal vocabulary will be presented, and law office procedures will be emphasized. Upon successful completion of this course, the student will be able to take dictation at a minimum rate of 100 words per minute for three minutes and transcribe with 95 percent accuracy. P.R. SEC 4417; P.R. or C.R. SEC 3301. (3-2) 4

SEC 4617 GENERAL OFFICE PROCEDURES: The student will learn to handle secretarial responsibilities. Through simulation, the student will actually perform typical office tasks. The work will involve the following: receptionist duties, handling the mail, telephone techniques, travel planning, reprographics, financial records, purchasing supplies, and office organization. Particular emphasis will be placed on professional typing problems. P.R. SEC 4305, SEC 4370, and SEC 4407. Speed requirement 60 wpm. (5-2) 6

SEC 4628 MEDICAL OFFICE PROCEDURES: The student will learn to handle medical responsibilities. Through simulation, the student will actually perform typical office tasks. The work will involve the following: receptionist duties, handling the mail, telephone techniques, financial records, and office organization. In addition, particular emphasis will be placed on advanced medical typing procedures which includes typing various medical reports, forms, and completing insurance claims. P.R. SEC 4305, SEC 4370, and SEC 4407. Speed requirement 60 wpm. (5-2) 6

SEC 4639 LEGAL OFFICE PROCEDURES: The student will learn to handle legal responsibilities. Through simulation, the student will actually perform typical office tasks. The work will involve the following: receptionist duties, handling the mail, telephone techniques, financial records, and office organization. Particular emphasis will be placed on advanced typing procedures. In addition, the student will gain an understanding of various facets of the law, when and how to use legal documents, important legal procedures, and law office routines. P.R. SEC 4305, SEC 4370, SEC 4407, and SEC 3301. Speed requirement 60 wpm. (5-2) 6

SOCIOLOGY

SOC 1301 GROUP INTERACTION: A course designed to enhance the student's understanding of group process and dynamics. Upon completion the student will demonstrate a knowledge of the skills essential for analysis of forces at work in groups and for working effectively in a group context. (3-0) 3

SOC 1500 SOCIOLOGY OF THE FAMILY: A course designed to help the student develop an understanding of contemporary American family patterns when examined from a cross-cultural perspective. Upon completion of this course, the student will demonstrate a knowledge of the family as a social institution and the social forces which have influenced its development. (5-0) 5

SOC 2501 PEOPLE AND THEIR ENVIRONMENTS: An interdisciplinary course designed to promote an understanding of the basic principles governing ecological systems, and the interaction of historical, social, economic, biological, and physical forces which sustain the totality of life. Emphasis will be placed on developing an awareness of the place of people within these systems. Examination of environmental concerns, both local and worldwide, will promote an understanding of the environmental impact of individual and group socio-cultural activities and will develop skills in making rational decisions concerning the environment. (5-0) 5

SOC 2502 WOMEN IN SOCIETY: An interdisciplinary course designed to develop an awareness and understanding of the roles of women in American society. Upon completion the student will demonstrate a knowledge of the process of sex role socialization, the position of women in each of the major social institutions, the roles of women in other cultures, and subcultures, and the impact of changing roles for life. (5-0) 5

SOC 2514 INTRODUCTION TO SOCIOLOGY: An introductory course which may be taken in either a self-pace or conventional manner. Upon completion the student will demonstrate a knowledge of the basic concepts of sociology, their application to contemporary group life, and the skills essential for objective analysis of one's social and cultural heritage. (5-0) 5

SOC 2515 SOCIAL PROBLEMS: A course which may be taken in either a self-pace or conventional manner. Upon completion the student will demonstrate an understanding of some of the major social problems confronting contemporary American society, as well as the theories which account for the underlying conditions and human behaviors which result in these conditions. Proposals for reform will be examined. P.R. SOC 2514 or consent of department head. (5-0) 5

SOC 2524 SPECIAL PROBLEMS OF SOCIOLOGY: A course for advanced students who have been approved by the department head. The student will consult with a departmental instructor and select a sociological topic of study. The study may involve library research as well as actual observation and the collection of data. Where several students have selected the same or similar topics concerned with a timely or important sociological subject, a seminar or class may be arranged. P.R. Consent of department head. (5-0) 5

SOC 3501 SOCIAL REALITIES I: A course designed for students in occupational and technical programs to familiarize them with the social environment in which they live. Emphasis will be placed on increasing the student's understanding and appreciation of the various social institutions in American society. When completed the student will demonstrate a knowledge of the functioning of the **family, education, and religion** institutions in contemporary American society. (5-0) 5

SOC 3502 SOCIAL REALITIES II: A course designed for students in occupational and technical programs to familiarize them with the social environment in which they live. Emphasis will be placed on increasing the student's understanding and appreciation of the various social institutions in American society. When completed the student will demonstrate a knowledge of the functioning of the **economic, political, and health care** institutions in contemporary American society. (5-0) 5

SOC 4300 SOCIAL AND MINORITY ISSUES: The student will demonstrate an increased awareness and appreciation of minorities and other intergroup relations, including ethnic and sex-role differences in contemporary American society. Through classroom participation in discussions, role playing, simulation games, and testing, the student will show evidence of having developed a greater understanding of the basic sociological concepts which characterize intergroup relations, including a greater appreciation of intergroup differences. (3-0) 3

SPANISH

SPA 1300 TRAVEL SPANISH: Oral approach to comprehending and communicating in Spanish. Upon successful completion of SPA 1300, the student should be able to use basic communication in terminals, shops, restaurants, hotels, and other places. Tapes, filmstrips, movies, and extensive conversation in classroom. (Elective credit only.) (Does not satisfy humanities requirement.) (3-1) 3

SPA 1600 ELEMENTARY SPANISH I: Basic elements of Spanish in conversation, reading, and writing for beginning students. Tapes, filmstrips, movies, and extensive conversation in classroom. (Does not satisfy humanities requirement.) (5-2) 6

SPA 1601 ELEMENTARY SPANISH II: Continuation of SPA 1600 in basic elements of conversation, reading, and writing. Tapes, filmstrips, movies, and extensive conversation in classroom. P.R. SPA 1600 or consent. (Does not satisfy humanities requirement.) (5-2) 6

SPA 2320 SPECIAL TOPICS: An advanced course in which the students and the instructor select topics for independent study. Class meetings for oral reports and discussion. P.R. SPA 2600 or consent. (3-0) 3

SPA 2600 INTERMEDIATE SPANISH I: Intensive review of basic grammar. Oral work and reading of selections in Spanish. P.R. SPA 1601 or two high school units or consent. (5-2) 6

SPA 2601 INTERMEDIATE SPANISH II: Continuation of SPA 2600. Reading of selections from Spanish literature. P.R. SPA 2600 or consent. (SPA 2600 and 2601 combined will satisfy humanities requirements.) (5-2) 6

SPEECH

SPH 1300 ORAL COMMUNICATIONS: Upon successful completion of SPH 1300, the student should be able to demonstrate effective interpersonal communication skills and the basic techniques of organization, language, purposefulness of delivery and use of voice. Further, the student should be able to deliver individual speeches as well as function in group discussions. (3-0) 3

SPH 1301 PERSUASIVE SPEAKING: Upon successful completion of SPH 1301, the student should be able to show through the use of analysis, evidence and reasoning patterns that attitudes, actions and beliefs may be altered. Persuasive methods of declarative, classificatory, evaluative and actuating claims will be emphasized. (3-0) 3

SPH 2101 PARLIAMENTARY PROCEDURE: Upon successful completion of SPH 2101, the student should be able to participate in business, professional, labor, service, and fraternal organizations that use the rules of parliamentary procedure. (1-0) 1

SPH 2300 VOICE AND DICTION: Upon successful completion of SPH 2300, the student should be able to approximate the sounds of standard American English, identify them in simple words and employ the sounds through individual readings. The student should be able to demonstrate breath control, phrasing, pitch inflection and vocal variation for effective speech. (3-0) 3

SPH 2304 PUBLIC SPEAKING: Upon successful completion of SPH 2304, the student should be able to prepare and deliver the following speeches: informative, impromptu, entertaining, and persuasive. In addition, the student should be able to introduce a speaker and present and accept awards. P.R. SPH 1300 or consent of department head. (3-0) 3

INDUSTRIAL SAFETY, SECURITY AND HEALTH MANAGEMENT

SSH 3301 PRINCIPLES OF INDUSTRIAL SAFETY, SECURITY AND HEALTH MANAGEMENT: Upon completion of this course the student should be able to: (1) identify the line and staff concept and the role each function must play in a successful management team; (2) demonstrate an understanding of the various functions in the managerial process as it relates to decision making and policy formulation, organizing and staffing, planning and controlling, and communicating and directing; (3) demonstrate knowledge of group decision making process specifically relating to the various types of committee organizations and the group and inter-personal dynamics which exist therein; (4) demonstrate knowledge of the history of the development of psychological principles as they have been applied in the industrial setting. P.R. 3501. (3-0) 3

SSH 3302 HOTEL & MOTEL SECURITY: Upon completion of this course the student should be able to: (1) demonstrate an understanding of the Hotel/Motel security function; (2) have a working knowledge of federal and state laws and local ordinances regarding the operation of hotel/motels; (3) analyze security hazards and outline protective measures such as: security organizations, threat evaluation, access control, protection of cash, emergency planning, fire prevention, and safety standards — (OSHA); (4) prepare a working plan for a hotel/motel to include areas indicated in (3) above. (3-0) 3

SSH 3304 ACCESS CONTROLS AND LOSS PREVENTION: Upon completion of this course the student should be able to: (1) determine strengths and limitations of security alarm systems; (2) understand the functional operations of common access control systems; (3) understand the fundamental operations of theft and risk control; (4) translate principles of loss prevention management into workable security procedures. P.R. SSH 3500. (3-0) 3

SSH 3500 INTRODUCTION TO LOSS PREVENTION: Upon completion of this course the student should be able to: (1) understand the historical, philosophical and legal basis of security; (2) understand the fundamental principles of loss prevention and their role in modern society; (3) translate principles of loss prevention management into workable security procedures; (4) conduct a loss prevention survey of a facility incorporating personnel, information and physical security criteria. P.R. None. (5-0) 5

SSH 3501 INTRODUCTION TO PRINCIPLES OF SAFETY: Upon completion of this course the student should be able to: (1) identify principles of safety guarding of equipment and machines, (2) demonstrate skills in placement and rise of protection equipment, (3) demonstrate knowledge of safety principles in designing safety controls, (4) demonstrate knowledge of methodology required to design, install, and follow up a simple safety program; (5) be familiar with principles of use of Job Safety Analysis and Systems & Safety Analysis. P.R. None. (4-2) 5

SSH 3503 RETAIL SECURITY: Upon completion of this course the student should be able to: (1) recognize problems and practices associated with retail security; (2) prepare security proposals associated for a retail facility to include employee screening procedures, combatting employee theft and shoplifting; (3) recognize acceptable practices and procedures necessary for general control of a retail facility with regard to security measures; (4) understand the proper utilization of honesty shoppers, undercover detectives, and employee morale building programs. P.R. 3500. (5-0) 5

SSH 3504 OCCUPATIONAL SAFETY AND HEALTH I: Upon completion of this course the student should be able to: (1) be familiar with principles of on-the-job and off-the-job safety programming; (2) be familiar with inter-relationship of safety, security, and fire systems, and programs; (3) demonstrate knowledge of use of basic Job Safety and System Safety Analysis techniques; (4) demonstrate knowledge of workplace health hazards and initial symptoms of those hazards; (5) be familiar with engineering controls, their value and limitations. P.R. SSH 3501. (4-2) 5

SSH 3505 OCCUPATIONAL SAFETY AND HEALTH II: Upon completion of this course the student should be able to: (1) review plans and specifications for adequacy of safety, fire and security provisions; (2) design safety systems for the control of explosive atmospheres in vapors, dusts and gases; (3) design safety equipment and guards for semi-complex systems; (4) conduct complex employee health monitoring testing; (5) demonstrate familiarity with approved testing and monitoring equipment, its use and calibration. P.R. SSH 3504. (4-2) 5

SSH 4304 SPECIAL PROBLEMS IN INDUSTRIAL SAFETY: Upon completion of this course the student should be able to: (1) adapt modern methodological research techniques to a current problem in industrial safety, through independent study; (2) make clear written presentation in appropriate format; (3) apply appropriate statistical analyses to the problem(s) of interest; (4) develop familiarity with available source data; (5) identify a viable project and carry the assigned task through to a logical conclusion. P.R. SSH 3501. (2-2) 3

SSH 4500 ORGANIZATION AND ADMINISTRATION OF SAFETY, HEALTH, AND LOSS PREVENTION PROGRAMS: Upon completion of this course the student should be able to: (1) demonstrate knowledge of all facets of comprehensive safety program; (2) create a matrix of annual or semi-annual program direction to include all on-the-job and off-the-job elements of safety programming; (3) demonstrate how a comprehensive safety program would be administered to include motivational techniques, lines of communication, incentives, ward programs, etc.; (4) demonstrate an ability to formulate a comprehensive health program to include all elements of employee pre-hire employment and post-hire care. P.R. SSH 3501. (4-2) 5

SSH 4501 INDUSTRIAL HYGIENE AND TOXICOLOGY: Upon completion of this course the student should be able to: (1) complete comprehensive reviews and make meaningful recommendations regarding methods of assessment, control and elimination of potential industrial hygiene or toxicology problems; (2) demonstrate familiarity with all carcinogen, mutagen and teratogen farming materials, their threshold limit values (TLV's) and lethal dose 50 (LD-50) values; (3) demonstrate knowledge of principles of ventilation, hazard control and the methods required to successfully cope with known and suspected hazards in the workplace. P.R. SSH 3501. (4-2) 5

SSH 4504 SECURITY PROBLEMS AND PRACTICES I: Upon completion of this course the student should be able to: (1) analyze and understand special problems and practices of the security profession; (2) prepare and conduct a security survey of an open office, office building, school campus, and airports; (3) identify problem areas and recommend procedures for safeguarding computer facilities; (4) prepare and implement procedures for security of transportation and cargo facilities. P.R. SSH 3500. (4-2) 5

SSH 4505 SECURITY PROBLEMS AND PRACTICES II: Upon completion of this course the student should be able to: (1) understand special problems and practices of security profession including private security companies, retail security, civil disturbances and terrorist activities; (2) recognize problem areas in a retail establishment and implement methods to successfully combat shoplifting and internal theft; (3) prepare and implement a contingency plan for emergencies or disasters, either natural or manmade; (4) prepare and implement a contingency plan in the event of terrorist attack or bomb threat. P.R. SSH 3500. (4-2) 5

SSH 4510 PRINCIPLES OF INTERVIEWING & INTERROGATION: Upon completion of this course the student should be able to: (1) interview victims, witnesses, informants and complainants as a communicative relationship; (2) using professionally acceptable techniques, question suspects and person in custody; (3) apply information obtained through the interview process for court testimony when required. P.R. None. (5-0) 5

TELEVISION and VISUAL GRAPHICS IN COMMERCIAL ART

TAV 3300 VISUAL AIDS DEVELOPMENT: This course is designed for students who plan occupations or avocations requiring them to develop and utilize projected visuals. Upon completion of this course, student should be able to develop useful and effective visual materials using overhead transparencies, 35mm slides and film strips and should be able to use and maintain basic projections equipment. (2-2) 3

TAV 4204 PROFESSIONAL PRACTICES AND PROCEDURES I: The student will examine business practices related to the production of graphic art for projected media. Discussions will be provided on the organization and operation of audio-visual companies and media departments. (1-2) 2

TAV 4205 PROFESSIONAL PRACTICES AND PROCEDURES II: The student will identify and describe sources of supplies for the graphics and audio-visual industry. Discussions will be conducted on the organization of work flow, relationships with clients, and personnel relations. P.R. TAV 4204. (1-2) 2

TAV 4214 VISUAL PROJECTION I: The student will use basic projection equipment including: (1) 35mm slide projector; (2) 16mm movie projector; (3) film strip projector; (4) overhead projector; and (5) opaque projector. P.R. Completion of Commercial Art foundation program or consent. (1-2) 2

TAV 4215 VISUAL PROJECTION II: The student will study, examine, and use video tape recording equipment and should be able to identify, set up and operate the various components of a typical single VTR system. Discussions will be provided on the use of 16mm movie film, and the student will receive experience in splicing 16mm and super eight motion picture film. Students will compare the various projected media and analyze each media's advantages and disadvantages. P.R. TAV 4214, TAV 4314. (1-2) 2

TAV 4216 VISUAL PROJECTION III: During this course, each student will assist a faculty member in the planning of an audio-visual program, meeting and communicating directly in the production of this audio-visual. The student should accompany the instructor into the classroom to observe and interpret the effectiveness of the presentation. P.R. TAV 4315, TAV 4215. (1-2) 2

TAV 4224 TELEVISION AND VISUAL GRAPHICS THESIS: This course is designed to integrate the student's work in commercial art into a portfolio of a quality suitable for presentation to prospective employers. The student will also develop a resume of background, qualification, experience, and other personal data. P.R. TAV 4214. (1-2) 2

TAV 4300 PHOTOGRAPHY IV: The student will examine basic color theory as applied to the color printing process. Color printing will be discussed, and the student will prepare a portfolio of color photographs which have been taken and printed, using the subtractive color printing process. P.R. VCO 3306. (2-2) 3

TAV 4314 VISUAL GRAPHICS STUDIO I: The student will develop and execute concepts for an audio-visual presentation, preparing a story board for use in this audio-visual. Discussions will be provided on the requirements and limitations of art for various projection devices. P.R. Commercial Art foundation program or consent. (2-2) 3

TAV 4315 VISUAL GRAPHICS STUDIO II: The student will prepare art work for use on various projection devices including film strips, 35mm slides, video tapes, and overhead transparencies. P.R. TAV 4314. (2-2) 3

TAV 4316 VISUAL GRAPHICS STUDIO III: This course is designed to allow the student to use basic video tape recording equipment to prepare a training program. The student will work with other students and "clients" to execute a story board and script and to shoot and edit this presentation. P.R. TAV 4315, TAV 4215. (2-2) 3

TRANSPORTATION

- TRN 3303 ECONOMICS OF TRANSPORTATION:** Upon successful completion of this course the student should be able to trace the development of rail, water, highway, pipeline and air transportation; discuss and understand the economic importance of each carrier type and the part each plays in transporting goods in commerce; relate the development of federal and state regulations; discuss and explain the coordination to meet the needs of an expanding economy. P.R. None. (3-0) 3
- TRN 3350 HIGHWAY TRANSPORTATION:** Upon successful completion of this course the student will be able to identify and discuss classifications of highway users, types of motor carriers, types of operations and services performed, state and federal regulations applicable, highway policies and "barriers", organization and operation of a motor carrier, terminals, facilities, types of equipment and cost, insurance, financing and labor regulations. P.R. None. (3-0) 3
- TRN 3450 MOTOR CARRIER RATES:** Upon successful completion of this course the student should be able to discuss the classification, construction and application of rates and charges; compute simple rate problems; apply various Southern Motor Carrier Rate Conference Tariffs to practice problems. P.R. None. (3-2) 4
- TRN 3451 TRAFFIC MANAGEMENT:** Upon successful completion of this course the student should be able to describe the organization and duties of the traffic department; apply management skills to the functions of shipping, receiving, routing, warehousing, transit privilege, export/import, documentation, and procedures before rates classification bureaus. P.R. None. (3-2) 4
- TRN 4350 RAILROAD TRANSPORTATION:** Upon successful completion of this course the student should be able to explain the role of railroads in the transportation industry; discuss the economic philosophy from which the railroads were developed; describe basic operating procedures employed by the railroad industry; and identify the current problems of the railroad industry. P.R. None. TRN 3303 is recommended. (3-0) 3
- TRN 4351 TRAFFIC CLAIMS:** Upon successful completion of this course the student should be able to investigate damaged shipments; gather and present facts to determine carrier liability; file and process a claim for payment; describe actions shipper and carrier can take to prevent damage from loss, damage, or delay. P.R. None. (3-0) 3
- TRN 4354 TRANSPORTATION LAW I:** Upon successful completion of this course the student should be able to trace the history of the Interstate Commerce Act; relate court cases interpreting it and related acts affecting interstate commerce; decide when goods shipped in commerce are subject to federal regulation; relate rights, duties, and obligations the act imposes upon shippers and carriers; explain the authority and duties of the Interstate Commerce Commission. P.R. None. (3-0) 3
- TRN 4355 TRANSPORTATION LAW II:** Upon successful completion of this course the student should be able to recognize violations of the law; gather data in connection with violations; present cases to the commission in the form prescribed; apply procedures necessary to establish data as facts; explain how applications for new authority and proposed rate investigations are made. P.R. TRN 4354. (3-0) 3
- TRN 4356 HIGHWAY TRANSPORTATION MANAGEMENT:** Upon successful completion of this course the student should be able to describe organization and operation of the motor carrier industry; analyze and solve managerial problems in the context of the economics, regulatory, and competitive environment in which the industry operates. P.R. None. (3-0) 3

VISUAL COMMUNICATIONS IN COMMERCIAL ART

- VCO 3301 ILLUSTRATION:** Upon completion of this course, the student should be able to: (1) identify the types of illustrations in use today; (2) execute preliminary comps for illustrations; (3) make spot illustrations; (4) execute illustrations with the use of 35mm slides and mechanical drawing aids; and (5) prepare full color illustrations using a variety of media. P.R. VCO 3316, VCO 3326. (2-2) 3
- VCO 3304 PHOTOGRAPHY I:** Upon completion of this course, the student should be able to: (1) identify various cameras, photographic equipment and materials; (2) describe functions of the camera and its expressive possibilities; (3) use the small format camera properly to take black and white exposures; and (4) follow correct darkroom procedures for developing film and making prints for presentation and exhibition. (2-2) 3
- VCO 3305 PHOTOGRAPHY II:** Upon completion of this course, the student will be able to: (1) take professional quality product photographs for use in advertising; and (2) prepare product photographs for presentation and/or exhibition. P.R. VCO 3304. (2-2) 3
- VCO 3306 PHOTOGRAPHY III:** The student who completes this course will be able to use advanced photographic techniques in commercial applications with particular emphasis upon the photo-mechanical processes. The student will also be able to describe introductory color theory. P.R. VCO 3305. (2-2) 3
- VCO 3314 DRAWING I:** Upon completion of this course, the student will be able to use a variety of drawing techniques and media to produce drawings of varied subject matter. (2-2) 3
- VCO 3315 DRAWING II:** Emphasis in this course is upon: (1) the human figure as subject matter using a variety of media; (2) perspective drawing and the illusion of space in still-life and landscape. P.R. VCO 3314. (2-2) 3
- VCO 3316 DRAWING III:** In this course the student continues to gain experience in the selection of materials and techniques for specific drawing problems and the development of a personal 'style.' Upon completion of this course, the student will be able to: produce commercially oriented drawings properly using composition, perspective, media and technique. P.R. VCO 3315. (2-2) 3
- VCO 3324 VISUAL DESIGN I:** In this course, the student will recognize and apply basic fundamentals and principles in assigned visual problems; will use basic design media; and will begin to analyze and critique design. (2-2) 3
- VCO 3325 VISUAL DESIGN II:** In this course, the student will use and examine the element of color extensively in more advanced design problems, experimenting with new media or combinations of media. P.R. VCO 3324. (2-2) 3
- VCO 3326 VISUAL DESIGN III:** In this course, the student will apply design fundamentals to both two and three dimensional problems, applying such principles to commercially oriented problems. P.R. VCO 3324. (2-2) 3
- VCO 4100 SEMINAR I:** This course is designed to orient commercial art students in their program; to provide opportunity for interaction with other commercial art students; assist in individual assessment of personal growth. (1-0) 1
- VCO 4101 SEMINAR II:** In this course, students will examine more closely the various options and career opportunities within the Commercial Art Program through formal presentations and guest speakers. (1-0) 1

- VCO 4300 FASHION MERCHANDISING AND PROMOTION: In this course, the student will learn procedures in merchandising and promotion and will discuss purchase planning, media and budget. (3-0) 3
- VCO 4303 FASHION DESIGN: In this course, the student will discuss production techniques of this industry and prepare basic designs. (2-2) 3
- VCO 4304 TYPOGRAPHY & LETTERING I: In this course, the student will examine the principles of hot metal and photo composition and will know and use appropriate typographic terminology. Using a variety of media, the student will be able to identify and execute specific typefaces from rough indication to comprehensive lettering. (2-2) 3
- VCO 4305 TYPOGRAPHY & LETTERING II: In this course, the student will learn the effective use of type as a design and communications element and will demonstrate the ability to specify and use type in camera ready art. The student will continue to develop an effective vocabulary of typographic terms. (2-2) 3
- VCO 4310 FASHION ILLUSTRATION I: In this course, the student will sketch wearing apparel in a variety of media and will use the human figure extensively in these illustrations. P.R. VCO 3316. (2-2) 3
- VCO 4311 FASHION ILLUSTRATION II: In this course, the student will continue to broaden illustrative techniques and explore other subject matter such as accessories and furnishings in addition to the figure, examining and reorganizing layout problems through the production stages. P.R. VCO 4310. (2-2) 3
- VCO 4313 CARTOONING AND CARICATURE: In this course, the student will analyze techniques in cartooning and caricature, drawing and interpreting given problems with an emphasis on originality. (2-2) 3
- VCO 4320 PACKAGE DESIGN I: In this course, the student will discuss and examine effective package design, applying the principles learned to basic design for this industry. (2-2) 3
- VCO 4323 COMMERCIAL SIGN PAINTING: In this course, the student will gain practical experience in the recognition and application of the principles of layout, design, typography, and color as they apply to commercial sign painting. (2-2) 3
- VCO 4324 COPYWRITING I: In this course, the student will examine techniques in originating effective copy for a variety of media, demonstrating the use of copy in format or layout solutions. P.R. COM 1304. (3-0) 3
- VCO 4325 COPYWRITING II: In this course, the student will analyze more complex copy problems for a variety of media and will be able to copy-fit and formulate concepts through the use of copy. P.R. VCO 4324. (3-0) 3
- VCO 4390 INDEPENDENT STUDY: Provides opportunity for the individual student or group to work beyond the limits of the regular commercial art offerings on self-determined objectives utilizing the resources of the Art Department. (3-0) 3
- VCO 4414 ADVERTISING PRODUCTION I: Upon completion of this course, the student will be able to properly use basic materials and tools for layout and mechanical artwork. The student will understand printing and production processes including the appropriate terminology necessary for this business. Good print advertising will be analyzed and field trips scheduled. P.R. VCO 3316, VCO 3326. (3-2) 4
- VCO 4415 ADVERTISING PRODUCTION II: In this course, the student will produce more complex layout and mechanical art, including a self-promotional folder. Conceptualizing ideas and coordination of typography, paper, halftone and color are stressed. Special graphic effects as embossing, die cutting, use of screens, and color keys will be studied. P.R. VCO 4414. (3-2) 4
- VCO 4416 ADVERTISING PRODUCTION III: In this course, the student will solve an assigned communications problem through the stages of concept and layout to the printed product; will continue to expand creative and technical abilities; and will be able to select appropriate production techniques for a variety of communications problems. P.R. VCO 4415. (3-2) 4

WELDING

- WLD 5110 BASIC OXYACETYLENE WELDING: Upon completion of this course the student should be able to: (1) assemble and operate the oxyacetylene welding equipment; (2) demonstrate surface welding, bronze welding and flame cutting methods applicable to mechanical repair work; (3) practice safety precautions pertaining to oxyacetylene welding and cutting. P.R. None. (0-3) 1
- WLD 5120 BASIC ELECTRIC ARC WELDING: Upon completion of this course the student should be able to: (1) operate a rectifier type welding machine; (2) weld different types of joints in the flat position; (3) practice safety precautions pertaining to electric arc welding. P.R. None. (0-3) 1
- WLD 5140 BASIC GAS-METAL ARC WELDING: Upon completion of this course the student should be able to: (1) assemble and operate the gas-metal arc welding equipment; (2) weld different types of joints in the flat position; (3) select welding heats and shielding gases; (4) practice safety precautions pertaining to gas-metal arc welding. P.R. None. (0-3) 1
- WLD 5150 WELDER'S QUALIFICATION TEST I: Upon completion of this course the student should be able to: (1) satisfactorily complete a welding test on 1/4" carbon steel using the shielded metal arc process, with 1/8" — AWS E6010 electrodes in the flat, vertical upward, horizontal and overhead positions. The test must meet specified CPCC guided bend and tensile test standards; (2) satisfactorily complete a welding test on 1/4" carbon steel using the shielded metal arc process, with 1/8" — AWS E7018 electrodes in the flat, vertical upward, horizontal and overhead positions. The test must meet specified CPCC guided bend and tensile test standards. P.R. Student must show evidence of adequate training in a community college, technical institute, vocational trade school, or on-the-job training. P.R. Welding Program Director approval. (0-3) 1
- WLD 5240 INTRODUCTORY PIPE WELDING: Upon completion of this course the student should be able to: (1) weld pipe in the horizontal, vertical and horizontal fixed position using arc welding processes; (2) practice safety precautions pertaining to arc welding. P.R. WLD 5820. (1-3) 2
- WLD 5267 CERTIFICATION PRACTICE: Upon completion of this course the student should be able to: (1) weld various metals to meet CPCC certification standards using oxyacetylene, electric arc, gas tungsten arc, and gas-metal arc welding processes; (2) practice safety precautions involved in using the welding equipment and other tools. P.R. WLD 5810, WLD 5820, WLD 5830. (0-6) 2
- WLD 5268 CERTIFICATION TESTING: Upon completion of this course the student should be able to: (1) use various tests including guided bend and tensile tests to check the quality of work; (2) demonstrate skill in producing quality welds. P.R. WLD 5810, WLD 5820, WLD 5830. (2-0) 2
- WLD 5355 COMMERCIAL AND INDUSTRIAL PRACTICES I: Upon completion of this course the student should be able to: (1) demonstrate skill developed through practice in simulated industrial processes and techniques; (2) sketch, layout, list pro-

cedures and construct a project following these procedures; (3) repair worn or broken parts by special welding applications; (4) perform non-destructive tests and inspection; (5) practice safety precautions involved in the welding industry. P.R. WLD 5810, WLD 5820, WLD 5830. (1-6) 3

WLD 5356 COMMERCIAL AND INDUSTRIAL PRACTICES II: A continuation of WLD 5355. Upon completion of this course, the student should be able to: (1) demonstrate additional skill in those areas outlined in WLD 5355. P.R. WLD 5355. (1-6) 3

WLD 5404 PIPE WELDING: Upon completion of this course, the student should be able to: (1) weld pipe in the horizontal, vertical and horizontal fixed position and in the 6G position using 6010 and 7018 rod; (2) complete test specimens to specifications indicated and; (3) practice safety precautions appropriate for the above activity. P.R. Welding Program Director approval. (2-6) 4

WLD 5411 OXYACETYLENE WELDING AND CUTTING I: Upon completion of this course the student should be able to: (1) demonstrate knowledge of the principles of oxyacetylene welding and cutting; (2) describe the nomenclature of the equipment; (3) properly assemble all components; (4) be able to form a puddle and carry the puddle forming weld beads in the flat position on different types of joints, and practice all safety precautions involved in oxyacetylene welding. P.R. None. (2-6) 4

WLD 5412 OXYACETYLENE WELDING AND CUTTING II: A continuation of WLD 5411. Upon completion of this course the student should be able to: (1) weld in all positions on different types of joints; (2) cut ferrous metals; (3) performs brazing operations; (4) visually inspect all welds to determine quality; (5) practice all safety precautions involved in oxyacetylene welding and cutting. P.R. WLD 5411. (2-6) 4

WLD 5421 ARC WELDING I: Upon completion of this course the student should be able to: (1) operate an AC transformer, rectifier and DC motor generator arc welding machine; (2) select welding heats, polarities and electrodes used in joining various metal alloys; (3) weld different types of joints in the flat position; (4) practice safety precautions pertaining to electric arc welding. P.R. None. (2-6) 4

WLD 5422 ARC WELDING II: A continuation of WLD 5421. Upon completion of this course the student should be able to: (1) weld different types of joints in all positions; (2) make intermittent welds and multiple passes; (3) test welds to detect weaknesses and imperfections; (4) practice safety precautions pertaining to electric arc welding. P.R. WLD 5421. (2-6) 4

WLD 5431 INERT GAS WELDING I: Upon completion of this course the student should be able to: (1) operate an inert-gas-shielded arc welding machine; (2) understand equipment operation and safety procedures; (3) weld different types of joints in the flat position; (4) practice safety precautions pertaining to inert-gas-shielded arc welding. P.R. None. (2-6) 4

WLD 5432 INERT GAS WELDING II: A continuation of WLD 5431. Upon completion of this course the student should be able to: (1) weld different types of joints in all positions; (2) select welding heats, shielding gases and filler rods; (3) practice safety precautions pertaining to inert-gas welding. P.R. WLD 5431. (2-6) 4

WLD 5654 COMMERCIAL AND INDUSTRIAL PRACTICES: Upon completion of this course the student should be able to: (1) demonstrate skills developed through practice in simulated industrial processes and techniques; (2) sketch, lay out, list procedures and construct a product following these procedures; (3) repair worn or broken parts by special welding applications; (4) perform non-destructive tests and inspection; (5) practice safety precautions involved in the welding industry. P.R. WLD 5810, WLD 5820, WLD 5830. (2-12) 6

WLD 5810 OXYACETYLENE WELDING AND CUTTING: Upon completion of this course the student should be able to: (1) demonstrate a knowledge of the principles of oxyacetylene welding and cutting; (2) describe the nomenclature of the equipment; (3) properly assemble all components; (4) be able to form a puddle and carry the puddle forming weld beads in all positions on different types of joints; (5) cut ferrous metals; (6) perform brazing operations; (7) visually inspect all welds to determine quality; (8) practice all safety precautions involved in oxyacetylene welding and cutting. P.R. None. (4-12) 8

WLD 5820 ARC WELDING: Upon completion of this course the student should be able to: (1) operate an AC transformer, rectifier, and DC motor generator arc welding machine; (2) select welding heats, polarities and electrodes used in joining various metal alloys; (3) weld different types of joints in all positions; (4) practice safety precautions pertaining to electric arc welding. P.R. None. (4-12) 8

WLD 5830 INERT GAS WELDING: Upon completion of this course the student should be able to: (1) operate an inert-gas-shielded arc welding machine; (2) select welding heats, shielding gases and filler rods; (3) understand equipment operation and safety procedures; (4) weld different types of joints in all positions; (5) practice safety precautions pertaining to inert-gas-shielded arc welding. P.R. None. (4-12) 8

MED 5514 SYMPTOMATOLOGY: Upon satisfactory completion of this course, the student will be able to assess signs and symptoms of disease and take appropriate action when dealing with patients in a medical facility. Problem solving techniques will be utilized. P.R. Fifth Quarter Standing. (5-0-0) 5

MED 5615 CLINICAL EDUCATION: This course will involve the identification of a problem in a pre-arranged medical agency; the collection and analysis of data and the presentation of findings. Student must obtain prior approval by the instructor. P.R. Seventh Quarter Standing. (3-0-30) 6

FACULTY AND STAFF

- GAIL S. ABERNATHY, Associate Degree Nursing
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- LEWIS FISHER DRUM, Physical Science
B.S., 1938 (Lenoir-Rhyne College); B.Ch.E., 1939, M.S., 1941 (North Carolina State University). Additional graduate work at Appalachian State University and North Carolina State University.
- KENT RHODES EARGLE, Director, Financial Aid, Placement and Research Development
B.A., 1970; M.Ed., 1971 (University of South Carolina). Additional graduate work at West Georgia College.
- GRACIE L. EDWARDS, Biology
A.A., 1969 (Central Piedmont Community College). Additional under-graduate work at University of North Carolina at Charlotte.
- LIENNE D. EDWARDS, Associate Degree Nursing
B.S.N., 1971 (University of North Carolina at Chapel Hill). Registered Nurse. Certified Childbirth Educator, 1975; M.S.N., 1979 (University of North Carolina at Greensboro).
- A.G. FARKAS, Program Director, Architectural and Civil Engineering Technology
B.S.C.E., 1948, M.S.C.E., 1959 (Washington University). Additional graduate work at Duke University and North Carolina State University. Registered Professional Engineer.
- J. DAVID FLANAGAN, Behavioral and Social Science
B.A., 1963, M.A., 1969 (University of Florida).
- PATRICIA FORD, Biology
H.S. graduate, 1970 (Harding High School)
- LOUIS F. FREEMAN, Department Head, Art
B.F.A., 1951 (School of the Art Institute of Chicago); M.Ed., 1966 (University of Missouri). Additional graduate work at Washington University.
- BERNICE POOLE FULSON, Practical Nursing
Diploma, 1952 (Kate Bitting Reynolds Memorial Hospital); B.S., 1964 (Queens College); M.Ed., 1972 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte and North Carolina State University, Raleigh. Registered Nurse.
- BETTY JEAN FUNDERBURKE, Director of Personnel
B.A., 1953 (North Carolina Central University). Additional study at University of North Carolina at Chapel Hill, University of Chicago, and University of North Carolina at Charlotte.
- ROBERT CURTIS FUSSELL, JR., Electrical and Electronic Engineering Technology Program Director
B.S., 1968 (Valparaiso Technical Institute). Graduate work at University of North Carolina at Raleigh.
- CHRISTINE GADSDEN, Secretarial Curricula
A.A., 1959 (Carver College).
- SANFORD D. GARMON, JR., Program Director, Diesel Mechanics
Diploma, 1968 (Central Piedmont Community College); Associate Degree General Education, 1972 (Central Piedmont Community College).
- MELVIN L. GAY, Vice President, Student Services
B.A., 1967 (North Carolina Wesleyan College); M.A., 1969, Ph.D., 1974 (University of North Carolina at Chapel Hill).
- CAROL GESTWICKI, Human Services Associate
B.Sc.N., 1962 (McMaster University, Hamilton, Ontario, Canada); M.A., 1970 (Drew University, Madison, N.J.).

- DOROTHY GOVE GLOVER, Practical Nursing
Diploma, 1941 (Mercy College of Nursing); B.A., 1971 (Limestone College); M.Ed., 1976 (University of North Carolina at Charlotte). Registered Nurse.
- ROBERT L. GOSSETT, Department Head, Allied Health
B.S., 1950 (University of Dayton); M.P.H., 1968 (University of North Carolina at Chapel Hill). Certificate in Physical Therapy (Cleveland Clinic).
- ALEXANDER GOW III, Counselor
A.B., 1958 (Duke University); M.Ed., 1968 (University of North Carolina at Chapel Hill).
- W. FRANKLIN GRANGER, Industry-Graphic Arts
A.G.A., 1970 (Chowan College); B.S., 1973 (Arkansas State University); M.A., 1977 (California State University at Los Angeles). Additional graduate work at Central Missouri State University.
- DARRELL L. GRAY, Student Activities
A.A., 1975 (Central Piedmont Community College); B.A., 1977 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte.
- GARY Y. GREENE, Environmental Systems
B.S., 1954 (North Carolina State University). Additional study at University of Tennessee.
- RICHARD B. GREGORY, Secretarial Curricula
B.S., 1962, M.A., 1966 (Appalachian State University); Ed.D., 1977 (Nova University).
- PATRICIA GREINER, Reading
B.S., 1952 (Purdue University); M.Ed., 1976 (Clemson University). Additional graduate work at Florida State University.
- HOKE S. GRIFFIN, Behavioral and Social Science
B.A., 1962, M.A.T., 1966 (University of Florida). Additional study at Florida State University, University of Pennsylvania, University of Rochester, Punjab University (Lahore, Pakistan).
- THOMAS EDWARD GRIFFIN, Department Head, Advancement Studies
B.S., 1952 (Western Carolina University); M.A., 1964 (Appalachian State University). Additional graduate work at University of North Carolina at Chapel Hill and North Carolina State University; Ed.D., 1976 (Nova University).
- SYLVIA GUION, Advancement Studies
Attended: Queens College, CCCC and UNC-Charlotte.
- DAVID MICHAEL GULLEDGE, Auto Body Repair
Diploma, 1969, A.G.E., 1972 (Central Piedmont Community College).
- RONALD CORBIN GYLES, Electrical and Electronics Engineering Technology
B.E.E., 1943, B.S., 1950, M.I.A., 1956 (North Carolina State University). Registered Professional Engineer.
- RICHARD H. HAGEMeyer, President
B.S., 1939 (Bowling Green University); M.A., 1951 (University of Michigan); Ed.D., 1961 (Wayne State University).
- MITCHELL HAGLER, JR., Assistant to Vice President, General Studies Division
B.S., 1960 (Appalachian State University); M.A., 1965 (Peabody College); Ed.S., 1973 (Appalachian State University).
- RICHARD HALBACK, Department of Public Service, Program Director of Correctional Science
A.S., 1969 (Bernard Baruch, School of Business Administration); B.S., 1970, M.A., 1974 (John Jay College of Criminal Justice, New York).
- JAMES E. HALL, Department Head, Biology
B.S., 1966, M.A., 1968 (Appalachian State University); Ed.D., 1979 (Nova University).
- MERIAM P. HANEY, Advancement Studies
A.A., 1966 (Central Piedmont Community College); B.A., 1972 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Greensboro.
- AUDREY HARDY, Financial Aid Office
A.A.S., 1974 (Fayetteville Technical Institute).
- HASKELL E. HARRILL, Environmental Systems
Diploma, 1937 (Coyne Electrical School). NC State License in Commercial Refrigeration.
- GAYLE MELTON HARTLEY, Humanities
A.A., 1958 (Wingate Junior College); A.B., 1960, M.Ed., 1962 (University of North Carolina at Chapel Hill); Ph.D., 1971 (University of South Carolina).
- HELEN H. HARTMAN, Administrative Personnel — Student Records
Diploma, 1934 (Wingate College).
- EARL HASSETT, Business Administration
J.D., 1951 (DePaul University); M.A., 1960 (Rockford College). Certified Public Accountant.
- A. CARY HAWTHORNE, JR., Business
B.S., 1951, M.B.A., 1955 (University of Maryland). Additional graduate work at Richmond Professional Institute and Virginia Polytechnic Institute.
- MARILYN MOYER HAYES, Program Director, Dental Hygiene
B.S., 1969 (Ohio State University). License Dental Hygienist in Ohio and North Carolina.
- LINDA P. HEATH, Computer Science
B.S., 1963, M.Ed., 1971 (University of North Carolina at Greensboro). Professional Certificate. Data Processing, 1975.
- JANE ELLIOTT HEEDICK, Department Head, Medical Office and Record Program
Diploma, 1943 (Presbyterian Hospital School of Nursing); A.B., 1970 (Limestone College); M.Ed., 1973 (University of North Carolina at Charlotte). Registered Nurse.
- SHERRY LEE HEINE, Nursing
B.S., 1973, M.Ed., 1978 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte.
- SOL HELLINGER, Director Off Campus Administrative Services
A.A., 1972 (Central Piedmont Community College).
- IDA L. HELMS, Advancement Studies (Drop-In Center)
A.A., 1969 (Central Piedmont Community College); B.A., 1971 (University of North Carolina at Charlotte). Additional graduate work at University of Colorado. M.Ed., University of North Carolina at Charlotte.
- EVERLENE A. HENDERSON, Art, Commercial Art
B.F.A., 1966 (Ringling School of Art). M.A.T., 1977 (Winthrop College).
- WILLIAM J. HENRY, Mathematics
B.S., 1939 (United States Military Academy); M.A.T., 1970 (North Carolina State University).
- THOMAS GILBERT HETHCOX, Automotive Mechanics
Diploma, 1951 (Southern Vocational Institute); Diploma, 1953 (Class A School, U.S.N.). Additional study at Mitchell College.

- KATHY R. HILES, Human Services Title XX
B.S., 1966 (University of Alabama); M.Ed., 1973 (University of North Carolina at Charlotte).
- RENEE' HILL, Department Head, Reading
B.S., 1952 (Fayetteville State University); M.A., 1968 (N. C. Central University); Ed.D., 1972 (Duke University).
- S. BROOKE HINSDALE, Special Services Counselor
B.A., 1969 (University of North Carolina at Chapel Hill); M.A., 1972 (University of North Carolina at Chapel Hill). Additional graduate work at University of North Carolina at Chapel Hill and University of North Carolina at Greensboro.
- ROBERT GILMAN HOELZEL, Camptroller
A.B., 1950 (Harvard University). Graduate work at University of Michigan.
- BETTE B. HOLMES, Program Director, Dental Assisting
Certified Dental Assistant.
- NANCY HOLT, Computer Science
A.A.S., 1972 (Central Piedmont Community College). Additional Study at Pfeiffer College.
- IRENE B. HONEYCUTT, Communications
B.A., 1963 (Bob Jones University); M.A., 1969 (East Tennessee State University). Additional graduate work at University of Colorado and Dominican College at San Rafael.
- JUDY THREATTLE HUDSON, Communications
A.B., 1963 (Pfeiffer College); M.Ed., 1969 (University of North Carolina at Greensboro). Additional graduate work at the University of Georgia.
- BETTY MAYO HUDSON, Advancement Studies
B.A., 1969 (University of North Carolina at Charlotte).
- CLAUD CALDWELL HUNTER, Program Director, Automotive Mechanics
Undergraduate work at North Carolina State University.
- DAVID LEE HUNTER, Vice President, General Studies
B.S., 1957 (Johnson C. Smith University); M.S., 1965 (Atlanta University). Additional graduate study at Rutgers University and North Carolina State University; Ed.D., 1979 (Nova University).
- WRIGHT HUNTER, JR., Communications
A.B., 1953 (Johnson C. Smith University); M.Ed., 1970 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte, Appalachian State University, Atlanta University and Temple University.
- SONJA T. HUTCHINS, Secretarial Curricula
B.S.S.A., 1967 (University of North Carolina at Greensboro); M.A., 1968 (Appalachian State University). Additional graduate work at Appalachian State University and N. C. State University.
- HUGO J. IBANEZ, Humanities
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1971 (University of North Carolina at Greensboro).
- WILLIAM L. JACKSON, Department Head, Behavioral and Social Science
A.B., 1952 (University of Miami); M.S., 1962 (Utah State University). Additional graduate work at University of South Carolina and Florida State University.
- MAGALY JANE', Humanities
B.S., 1964 (University of Tampa); M.A., 1968 (Appalachian State University).
- LEWIS JEFFERIES, Project Accounting Specialist Business Office
A.A., 1971 (Central Piedmont Community College).
- SALLIE C. JENKINS, Library
B.S., 1960, M.A., 1961 (East Carolina University).
- DORA T. JOHNSON, Department Head, Secretarial Curricula
B.S., 1957 (Agricultural and Technical State University); M.A., 1960 (Columbia University). Additional graduate work at University of North Carolina at Greensboro.
- EDITH L. JOHNSON, Child Care Training Center
B.A., 1954 (Salem College). Additional studies at Wake Forest University, Salem College and Presbyterian School of Christian Education.
- CAMILLE N. JOHNSTON, Placement Officer
A.B., 1946 (Duke University).
- JAMES B. JONES, JR., Mathematics
B.A., 1963 (Lenoir-Rhyne College); M.A., 1965 (University of South Carolina). Additional graduate work at Florida State University.
- NORMAN JOYNER, Electrical and Electronics Engineering Technology
Specialty Schools — U. S. Army Electronics School, RCA, and Westinghouse. Fifteen years electrical work experience.
- BARBARA JOHNSON KASLER, Art, Fine Arts
B.A., 1958 (Queens College); M.Ed., 1968 (Wayne State University).
- PAUL L. KELLER, Student Employment Advisor
A.B., 1965 (Bastan University); M.B.A., 1971 (University of Massachusetts at Amherst); A.A.S., 1978, A.A.S., 1979 (Central Piedmont Community College). Additional work at Naval War College, Newport, R.I.
- GEORGE MANUEL KENNEDY, Art, Commercial Art
B.A., 1967 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Charlotte.
- JAMES B. KETCHAM, JR., Director of Purchasing
- WILLIAM ARTHUR KIBLER, JR., Adult Education Supervisor
B.S., 1960 (North Carolina Agricultural and Technical State University). Additional study at Johnson C. Smith University.
- JOHN W. KIMBLE, Business Office
B.S., 1975 (University of Charleston).
- BETTIE H. KING, Business
A.B., 1967 (Salem College).
- ELIZABETH H. KING, Business Administration
A.B., 1967 (Salem College).
- SARA ANNE KING, Program Director, Paralegal
A.B., 1968 (Pfeiffer College); J.D., 1972 (Stetson University).
- A. VICTOR KIRKMAN, JR., Counselor
B.A., 1955 (Wake Forest University); M.A., 1964 (Appalachian State University). Ed.D., 1976 (Nova University).
- HELEN T. KISER, Practical Nursing
Diploma, 1953 (Mercy School of Nursing); B.A., 1973 (Limestone College). Registered Nurse. Additional graduate study N. C. State University, Raleigh.

- JESSIE PROPST KISER, Department Head, Nursing Programs
Diploma, 1942 (Shelby Hospital School of Nursing); B.S.N.E., 1957 (Duke University).
- MARVIN KRIEGER, Economics
B.A., 196B (Lenoir-Rhyne College); M.A., 1969 (Woke Forest University). Additional study at Duke University, University of North Carolina at Charlotte and Woke Forest University.
- SARBARA SUE LAKE, Advancement Studies
A.A., 1969 (Central Piedmont Community College); B.A., 1971 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte, North Texas State University, North Carolina State University.
- PAULINE DOVE LAMAL, Arts, Fine Arts
B.A., 1965 (Mory Baldwin College); M.F.A., 1969 (George Washington University).
- LINDA E. LANDERS, International Culture
B.S., 1965 (Georgia Southern College).
- ROGER D. LANCY, Continuing Education
(N. C. Justice Academy); (Goston College).
- CONNIE C. LANIER, Behavioral and Social Science
A.B., 1960, M.A., 1962 (Emory University). Licensed Psychological Examiner.
- JONATHAN T. LAUNT, Communications
B.A., 1967, M.A.T., 1969 (University of North Carolina at Chapel Hill).
- MARGARET SHARPE LAWING, Communications
B.A., 1957 (Elon College); M.A., 196B (University of North Carolina at Greensboro). Additional graduate study at University of Northern Colorado and Western Carolina University.
- CRAIG LEONARD, Horticulture
B.S., 1975 (North Carolina State University).
- THEODORE H. LEWIS, Computer Science
Undergraduate work at Western Carolina University.
- M. B. LILES, JR., Biology
B.S., 1960 (Woke Forest University); M.A., 1969 (Appalachian State University).
- OTTO A. LOCKEE, Vice President, Adult and Continuing Education
B.S., 1950; M.Ed., 1951 (Texas Christian University). Registered Professional Engineer.
- EDWARD W. LOCKETT, HRD Coordinator
- RAY W. LOCKIER, Environmental Systems Program
A.A., 1975 (Central Piedmont Community College).
- BETH A. LONG, Dental Assisting
A.A., 1966 (Lees-McRoe Junior College); Diploma, 1967 (Central Piedmont Community College).
- AIMEE SCHULTZ LOSSE, Mathematics
A.B., 1940 (University of Wisconsin); M.A., 1967 (Pittsburg State University, Kansas). Additional graduate work at Pittsburg State University, Kansas.
- DONALD LOVE, Performing Arts, Drama
B.A., 1974 (University of Wisconsin); MFA, 197B (University of Alabama).
- SHIRLEY R. LUCKADOO, Secretarial Curriculum
A.A., 1963 (Gordner-Webb College); B.A., 1965 (Furman University); M.A.T., 1971 (Winthrop College).
- VAUGHN C. LUCKADOO, Program Director, Coswork and Outreach
B.A., 196B (Woke Forest University); M.Ed., 1972 (University of North Carolina). Additional graduate work at University of North Carolina. Certificate in counseling, State of North Carolina.
- J. AARON McALEXANDER, Physical Science
B.S., 1961 (Appalachian State University); M.A.T., 1965 (University of North Carolina at Chapel Hill); Ed.D., 1976 (Navajo University).
- PAUL L. McBROOM, Director, HRD Programs
- WALTER W. McCULLOCK, Director, Information
B.A., 1949 (Elon College); M.Ed., 196B (University of North Carolina at Greensboro). Graduate of National Academy of Broadcasting. Additional graduate work at University of North Carolina at Chapel Hill, University of Oklahoma, and University of Wisconsin.
- ROGER D. McDANIEL, Occupational Extension, Food Service
Attended Lenoir-Rhyne College, North Carolina State University and Goston College.
- PEGGY P. McDONALD, Health, Physical Education & Recreation
B.S., 195B (Winthrop College). Additional work at University of South Carolina.
- JEAN STOVALL McDUFFIE, Library Science
B.A., 1964 (Johnson C. Smith University); M.S.L.S., 1965 (Atlanta University).
- RALPH L. McGRATH, Cash Receipts Administrator
Diploma, 1960 (American Institute of Banking).
- DORIS W. McILWAIN, Media Production
B.A., 1971 (Meredith College); M.Ed., 1975 (University of North Carolina at Chapel Hill).
- WILLIAM A. McINTOSH, Vice President, Educational Planning and Evaluation
A.B., 1960 (Elon College); M.S., 1964, Ed.D., 1969 (North Carolina State University).
- LEON B. McKIM, Law Enforcement
B.A., 1949 (University of Florida); M.A., 1969 (Florida Atlantic University).
- JEANNE E. McKINNON, Mathematics
A.B., 1940 (Erskine College); M.Ed., 1953 (University of North Carolina at Chapel Hill); M.A., 1963 (University of Oregon); Ed.D., 1976 (Novo University). Additional graduate study at University of Wyoming and University of Chicago.
- DENNIS G. McMULLIN, Program Director, Commercial Art
Professional Diploma, 1963 (Maryland Institute College of Art). I.D.E.C.
- R. W. McMURRAY, Accounts Control Supervisor
Diploma, 1959 (Robert Morris Junior College).
- EDITH McPETERS, Accounting
B.S., 1946 (Furman University). Additional work at Duke University and the University of North Carolina at Chapel Hill. Certified Public Accountant.
- MARSHALL M. MADDOX, Behavioral and Social Science
A.A., 1959, B.A., 1964, M.Ed., 1969 (University of Florida). Additional graduate work at University of Florida.

- JONA D. MAIORANO, Human Services
B.A., 1979 (University of North Carolina at Charlotte).
- WILLIAM M. MAPLES, Environmental Systems Program Director
A.A.S., 1974 (Central Piedmont Community College).
- CARL L. MARTIN, Locksmith
- EDWARD VAN MARTIN, Counselor
B.A., 1959 (Johnson C. Smith University). Additional study at University of Minnesota and Virginia Commonwealth University.
- CAROLYN MASON, HRD Program Specialist Assistant
- VIRGINIA B. MATHIS, Humanities
B.A., 1936 (Winthrop College); M.A., 1942 (Duke University). Additional study at Columbia University, Florida State University and Harvard University.
- MARZELLE RENEE MATTILL, Business Administration
A.A., 1972, Executive Secretary (Central Piedmont Community College); A.A., 1975 Business Administration (Central Piedmont Community College). A.A., 1976 Liberal Arts.
- PHILIP B. MAULDIN, Behavioral and Social Science
A.B., 1960 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University); Ph.D., 1973 (University of Alabama).
- DELORES M. MAXWELL, Nursing
R.N., 1962 (Provident Hospital School of Nursing); B.S., 1974 (Queens College); M.S.N., 1976 (University of North Carolina at Chapel Hill).
- MANUEL MATTHEW MENSER, Program Director, Welding
Undergraduate work at North Carolina State University.
- FRANK C. MILLER, Environmental Systems
A.S., 1957 (Southern Technical Institution); B.S., 1968 (North Carolina State University).
- JOHN D. MOORE, Director of Occupational Extension
A.B., 1954 (University of North Carolina at Chapel Hill); M.Ed., 1964, Ed.D., 1973 (North Carolina State University).
- MARY C. MOOSE, Library Sciences
A.A., 1946 (Stephens College).
- H. LYNN MORETZ, Accounting
B.S., 1961 (Appalachian State University); M.Ed., 1966 (University of Maryland); Ed.D. 1980 (Nova University).
- JUANITA OWEN MORRIS, Associate Degree Nursing
Diploma, 1940 (Mercy Hospital of Nursing); Diploma, 1942 (Vanderbilt University Hospital Anesthesia School); B.S., 1949 (Queens College). Additional study at University of North Carolina Registered Nurse.
- THOMAS R. MORRIS, Program Director, Respiratory Therapy
B.S., 1966 (University of Alabama); Certificate in Respiratory Therapy, 1968 (Duke University Medical Center).
- MILDRED W. MORRISON, Assistant Director, Library Sciences
A.B., 1938 (Hall's College); B.L.S., 1939 (Pratt Institute); M.A., 1970 (Appalachian State University). Additional work at University of North Carolina and Queens College.
- JOHN DEAN MORROW, Department Head, Physical Science
B.S., 1957 (East Carolina University); M.S., 1967 (University of Tennessee). Additional graduate work at North Carolina State University, Appalachian State University and Oak Ridge Institute of Nuclear Studies.
- ROBERT A. MORROW, JR., Department Head, Mathematics
B.S., 1959, M.S., 1961 (North Carolina State University).
- JACK R. MULLIS, Director, Construction and Contractual Service
- JAMES S. MULLIS, Advancement Studies
A.A., 1979 (Central Piedmont Community College).
- GLORIA M. MUMFORD, Physical Science
B.S., 1953 (Bennett College); M.S., 1964 (North Carolina Central University). Additional graduate work at Michigan State University.
- MICHAEL G. MYERS, Director, Occupational Extension
B.S., 1953 (Davidson College).
- JOHN A. NEEDY, JR., Department Head, Health, Physical Education and Recreation
B.S., 1940 (Ohio Northern University); M.A., 1947 (Columbia University). Additional graduate work at Indiana University.
- DAVID A. NEEL, GED/Continuing Education
B.A., 1974 (University of North Carolina at Charlotte). Additional work at University of North Carolina at Charlotte and Central Piedmont Community College.
- CLARA E. NELSON, Accounting
B.S., 1962, M.A., 1965 (Appalachian State University).
- JOHN A. NELSON, Program Director, Motorcycle Mechanics and Small Engine Repair
B.S., 1964 (Stout State College).
- GLEN A. NEWTON, Electrical Electronics Engineering Technology
B.S., 1970 (University of Wisconsin); A.A.S., 1976 (Central Piedmont Community College).
- ANDY O. NICHOLS, Law Enforcement
B.A., 1974 (Winthrop College). Licensed Audio Stress Analyst and Licensed Private Detective.
- ROBERT STANLEY O'DELL, Mechanical Engineering Technology
B.S., 1951, M.A., 1959 (East Tennessee State University). Additional work at University of North Carolina at Chapel Hill and North Carolina State University.
- HENRY ALLEN ODER, JR., Business Administration
A.B., 1947, LL.B., 1956 (Washington and Lee University).
- WALTER C. O'NEILL, Program Director, Food Service Technology
Diploma, 1941 (Cooks and Bakers School). Certified Executive Chef.
- M. PHOEBE OPLINGER, Director, Library Services
A.B., 1946 (Maryville College); M.S.L.S., 1959 (Drexel University).
- MARY LOU PASCHAL, Performing Arts, Music
B.M., 1957 (Oberlin Conservatory of Music); M.M., 1959 (University of Mississippi). Additional study at Harvard University.

- WILLIAM S. PERKINS, Media Production
B.A., 1972, M.Ed., 1974 (University of Houston).
- LOIS S. PETROWSKI, Director, Child Care Training Center
B.S., 1937, M.S., 1939 (North Carolina State University). Additional graduate work at Duke University and University of North Carolina at Chapel Hill. Member Academy of Certified Social Workers and member National Association of Social Workers.
- NORMAN HOLMES PETTY, Business Administration
B.A., 1962 (Wheaton College); M.B.A., 1970 (Georgia State University). Additional graduate work at University of North Carolina at Chapel Hill.
- SUSAN PHIFER, Communications
A.B., 1965 (Converse College); M.Ed., 1969 (University of North Carolina at Greensboro).
- CAROLYN PITTS, Student Financial Aid
B.S., 1966 (Livingstone College); M.Ed., 1976 (University of North Carolina at Charlotte).
- JAMES G. POLK, Communications
A.B., 1950 (Johnson C. Smith University); M.A., 1962 (New York University).
- MARY A. POOLE, Communications
B.A., 1960 (Queens College); M.A.T., 1965 (University of North Carolina at Chapel Hill). Additional graduate work at University of North Carolina, Winthrop College, Oxford University (England) and the University of Illinois. Special interest in Russian literature.
- LINDA K. PORTER, Program Director, Medical Record Technology
A.S., 1970 (Lees-McRae College); B.S., 1972 (Bowman Gray College). Registered Records Administrator, 1972.
- ERNEST DeREECE PRIVETTE, Secretarial Curricula
B.S., 1949 (East Tennessee State University); M.A., 1952 (Columbia University). Additional work at Appalachian State University, North Carolina State University, and University of North Carolina at Chapel Hill.
- ANNETTE M. RANDALL, Communications
A.B., 1967 (University of North Carolina at Chapel Hill); M.A., 1968, Ed.S., 1977 (Appalachian State University).
- DANIEL EDWIN READ, JR., Biology
B.S., 1961 (University of Florida); M.A., 1964 (Duke University). Additional study at University of North Carolina at Greensboro and University of North Carolina at Charlotte.
- ANN C. REID, Secretarial Curricula
B.S., 1959 (Appalachian State University); M.A.T., 1974 (Winthrop College).
- RUFUS EUGENE REID, JR., Advancement Studies
B.S., 1958, M.Ed., 1965 (Appalachian State University).
- WILEY G. REID, Supervisor, Systems and Planning
Attended Duke University and Central Piedmont Community College. Certificate in Data Processing, 1972.
- BRADFORD J. REYNOLDS, Department Head, Human Services
A.B., 1962 (Elon College); M.Ed., 1967 (University of North Carolina at Greensboro); Ed.D., degree 1977 (Nova University).
- DAVID A. RHODEN, Counselor, Veterans Affairs
A.A., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte).
- RAYMOND G. RICHARD, Humanities
B.A., 1953 (Universite' Saint-Louis, Edmundston, NB Canada); M.A., 1963 (Universite' Laval, Quebec, PQ Canada). Additional work at University of London and University of South Carolina.
- CYNTHIA L. RICKETSON, Communications
B.S., 1964; M.A., 1966 (University of Tennessee).
- FLORA EMILY ROBERTS, Accounting
A.A.S., 1975 (Central Piedmont Community College).
- J. C. ROBERTSON, Director, Plant Operations and Purchasing
B.S., 1962 (University of Maryland). Additional work at Washington University and Industrial College of the Armed Forces.
- LOUISE PARSON ROBINSON, Counselor
B.S., 1956; M.S., 1963 (Oklahoma State University).
- JAMES COOK ROGERS, Behavioral and Social Science
B.A., 1966 (Wake Forest University); M.A., 1968 (Wake Forest University). Additional graduate work at University of California at Berkeley, and University of Kentucky.
- LORETTA BURCH ROJO, Accounting
B.S., 1965 (Winthrop College); M.Ed., 1969 (University of North Carolina at Greensboro).
- ELIZABETH SPROUL ROSS, Arts, Fine Arts
B.A., 1959 (Queens College); M.F.A., 1965 (University of North Carolina at Greensboro).
- NANCY C. ROUZER, Behavioral and Social Science
B.A., 1942 (Duke University); M.A.T., 1964 (Winthrop College). Additional work at Winthrop.
- ANN PARKIN ROWELL, Accounting
B.S., 1973 (University of North Carolina at Greensboro). Passed the North Carolina CPA Exam. Additional graduate studies at University of North Carolina.
- VIRGINIA RYAN, Counselor
B.S., 1958, M.S., 1964 (University of Southern Mississippi). Additional work at University of Southern Mississippi.
- GREG SAHLBERG, Special Services
B.S., 1976 (University of Wisconsin at Stout); M.A., 1977 (New York University).
- BOB G. SAMPSON, Communications
B.A., 1965 (Western Kentucky University); M.A., 1968 (Ball State University); Ed.S., 1973 (Appalachian State University).
- JAMES HOWARD SASSER, Behavioral and Social Sciences
A.B., 1959 (High Point College); M.A., 1960, Ed.S., 1968 (George Peabody College for Teachers); Ed.D., 1976 (Nova University).
- SUSAN B. SCHOETTLER, Business Administration
B.A., 1970 (Eastern Michigan University); J.D., 1973 (Detroit College of Law).
- JUDITH U. SHAFFER, Library Services
B.A., 1968 (University of Delaware).
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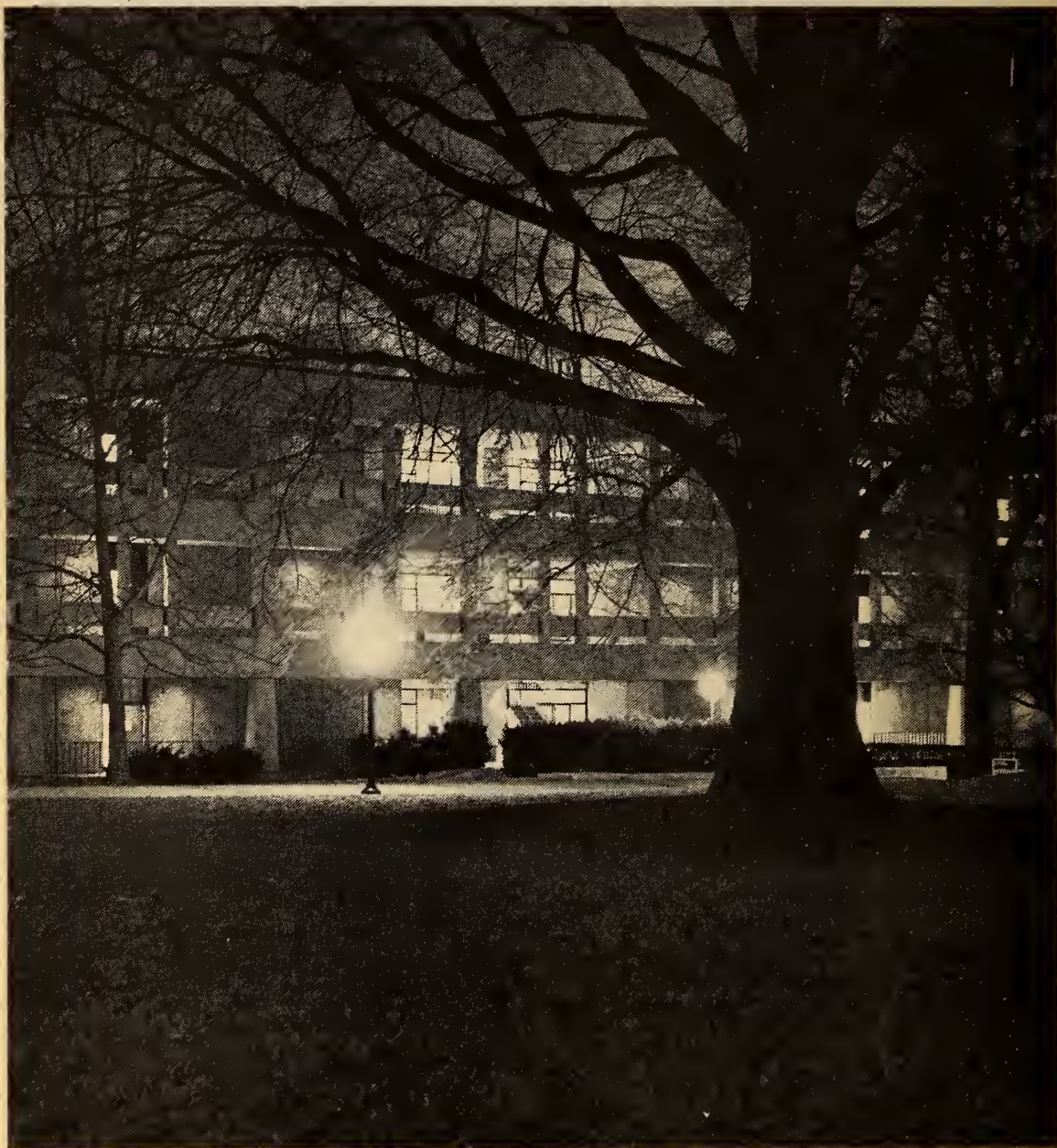
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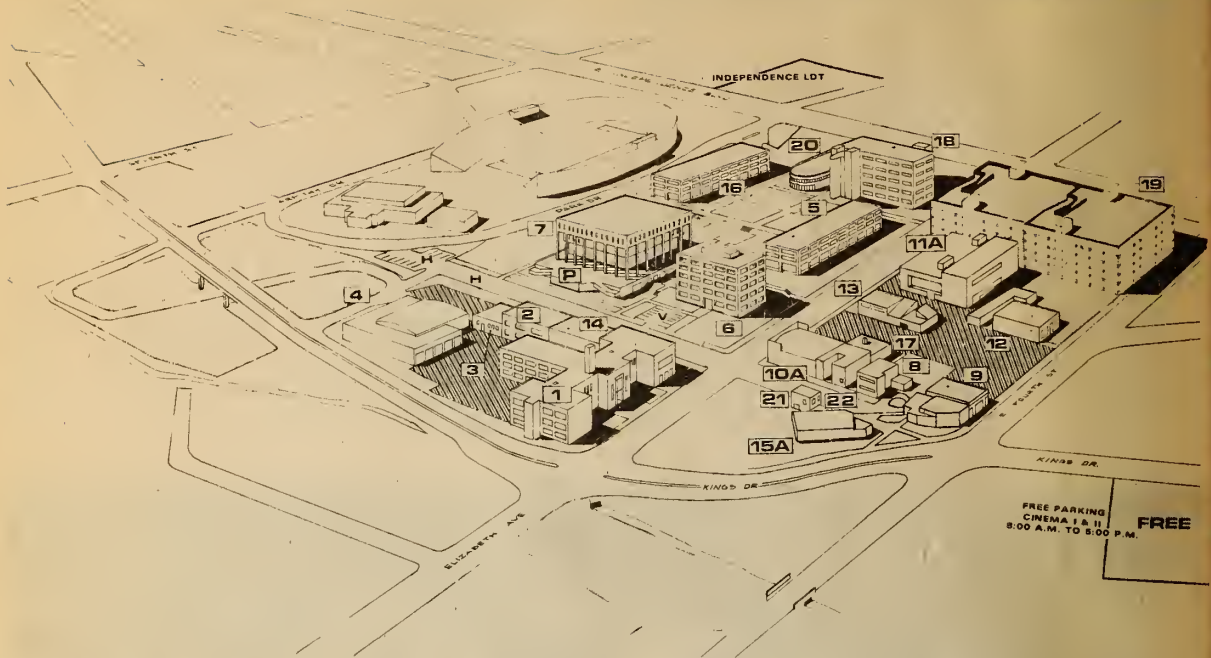
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CENTRAL PIEDMONT COMMUNITY COLLEGE



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CC-CHILD CARE TRAINING CENTER 8
CE-CAREER EDUCATION BUILDING 18
CF-CENTRAL FORUM 10A
CH-HUNTER BUILDING 14
DD-DAVIS BUILDING 4
EK-KRATT HALL 16
ET-TERRELL ADMINISTRATION BLDG. 6

FS-CITIZENS CENTER 20
GA-GARINGER HALL 1
MB-MECHANIC BUILDING 9
MH-MECKLENBURG HALL 5
MU-MUSIC BUILDING 13
NX-ANNEX 2
P-PLEASE AUDITORIUM

RH-HAGEMEYER L.R.C. BUILDING 7
RM-MASON BUILDING 12
SB-SEWING BUILDING 21
TB-TRADES BUILDING 22
TH-TAYLOR HALL 11A
WAREHOUSE 15A
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